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AIR CONDITIONING & REFRIGERATION News

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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Color and Showmanship
Add Baseball Stories (Umpire Division)
Ed 'Had' It
This Will Throw You
Love's Labor Lost
Hubbard, Inc.
Now It Can Be Told
Babe Herman Stories
Babe Ruth Stories
Final Umps Joke
Kids Have the Last Word
Tongue-In-Cheek

Color and Showmanship

What makes a "colorful" guy? One ingredient is the misfortune (or ability!) to make mistakes on a grand scale. 'Twas said, for instance, that Babe Ruth looked great striking out.

Nobody denies that Eddie Stanky has "color." And when he made a mistake it was a beaut.

Late in July, 1953, the Cardinals playing manager placed himself second on the batting order he handed to the umpires, and to Steve O'Neill of the Phillies. Forgetfully, he led off to start the game, and struck out.

Hemus singled; Musial came next. Whereupon O'Neill showed his copy of Stanky's batting order to the arbiters. Both Hemus and Musial were erased for batting out of turn. Hemus, of course, was robbed of his single. And the Cards lost the game, 2 to 1.

Perhaps the Pittsburgh Pirates of 1952 were not the worst team of all time, but they gave it a good try.

They were last in batting and fielding. There wasn't a .300 hitter on the club. Pitt pitchers yielded most walks and home runs. Records for most strike-outs were compiled.

Fiery Billy Meyer couldn't take those managerial headaches any longer and resigned. Consolingly, Branch Rickey announced that Meyer would be retained as a "trouble shooter."

"We wonder," mused a Pittsburgh scribe, "whom Billy will shoot first."

Jarring was the move of Boston's Braves to Milwaukee at the outset of the 1953 season. First major league franchise shift in 50 years.

Owner Lou Perini condensed the reasons with a classic remark:

"I don't mind losing a few hundred thousand dollars. But when I lose more than a million, it becomes expensive."

"Peerless Frank" Chance, often referred to as the finest first baseman of all time, loved to entertain friends in the "rumpus room" of his home.

It was spectacular. Nearly 400 square feet in area, it was richly appointed and handsomely stocked. Incongruous note: a dull cement floor.

"Next day after a party," Chance explained the cement floor, "it's easy to clean up. Just turn on the hose and flush out the debris."

Add Baseball Stories (Umpire Division)

A close call at the plate by "Brick" Owens cost the Tigers a vital game in the 1936 race.

A Fort Shelby hotel tonsorialist had seen the game, and recognized Owens when the latter stretched out in his barber chair for a shave next morning.

"That was a helluva way to lose

(Concluded on Page 8, Col. 1)

Nash-Kelvinator and Hudson Directors Put Final OK on Merger

DETROIT, April 22—Merger of Nash-Kelvinator Corp. and Hudson Motor Car Co. under the name American Motors Corp. was assured by directors of the two companies today. The new company will start business May 1.

The announcement was made by George W. Mason, who is to be American Motors' first chairman and president. Mason said the merger "gives us the financial strength, facilities, dealer organizations, and potential volume to capitalize on product advantages we already enjoy and fresh concepts we believe the public will welcome."

The new company will have three separate divisions—the Nash Motors Div., the Hudson Motor Car Div., and the Kelvinator Div., all with separate sales and dealer organizations.

"In the appliance field," said

(Concluded on Page 25, Col. 2)

Evis Denies FTC False Ad Charges; Hearings Set

SAN FRANCISCO—The manufacturer of the Evis water conditioner, in an answer to the Federal Trade Commission complaint issued recently that charged that certain advertising claims made by the manufacturer were "false and misleading," has denied that advertisements for the device misrepresent the beneficial effects it has on water.

The FTC has set dates for a series of hearings which will determine the future course of action on the complaint. First hearing is set for May 12 in Los Angeles. Other hearing dates are May 20 in San Francisco, May 25 in Pullman, Wash., and May 29 in Portland, Ore.

After both sides have had an opportunity to present their case, the hearing examiner will file an

(Concluded on Back Page, Col. 2)

Westinghouse Has 3-Model Line of Upright Freezers

MANSFIELD, Ohio—A three-model line of upright home freezers is now being merchandised by the Westinghouse Electric Appliance Div., reports S. J. Stephenson, manager of the refrigerator-freezer department.

The new 1954 line features slide-out juice trays, pastry racks for protecting pies and cakes during freezing and storing, and roll-out drawers for bulky, odd-size packages.

A "Cold-Saver" inner door on each compartment of the freezer prevents cold from spilling out of the cabinet when the outer door is open. These doors also serve as loading and unloading shelves.

(Concluded on Page 25, Col. 1)

Data Collected on Savings Possible By Water Savers

DETROIT — Specific figures on savings in water costs for residential air conditioning obtainable in this area with cooling towers proved of special interest to guests attending a dealer meeting held here by Temp-Matic Wholesalers, Inc., local distributor for Westinghouse air conditioning and other lines.

Cooling tower data was presented by Carl Millsom, sales manager of Acme Industries, Inc., who with Westinghouse representatives and Temp-Matic officials reviewed product features and promotion

(Concluded on Page 4, Col. 1)

Sayre Named Norge Pres., Gen. Manager

CHICAGO — Judson S. Sayre, nationally known as a top executive in the home appliance field, last week became president and general manager of Norge Div. of Borg-Warner Corp. and a vice president of the corporation, it was announced by Roy C. Ingersoll, Borg-Warner president.

In the presidency of Norge, Sayre succeeds George P. F. Smith, who will join the executive staff of the Borg-Warner Central Office, Ingersoll said.

Jan. NEMA Refrigerator, Freezer Sales Down

(Tables on pages 7 and 25)

NEW YORK CITY—A total of 344,101 household refrigerators and 49,017 home freezers were sold during January by manufacturers reporting to the National Electrical Manufacturers Association here.

The refrigerator total, sold by 23 companies, fell just 1% below that recorded for January, 1953, but was 75% better than the December, 1953 mark. The drop from last year was caused entirely by a sharp decline in sales to the Canadian market.

Sales to the domestic market were a few hundred units better than last year and sales to other foreign countries were up 7%. But

(Concluded on Page 25, Col. 4)

Kelvinator Names Ammel To Contract Sales Post

DETROIT—T. J. Ammel, a veteran of Kelvinator's commercial department, has been named assistant sales manager of the commercial contract department.

T. J. Ammel

H. C. Patterson, commercial sales manager, said Ammel would assist C. H. Herrlich, manager of the contract sales department.

Ammel, widely-known in refrigerating engineering circles, started

(Concluded on Page 4, Col. 3)

45 Industry Firms Will Exhibit at Restaurant Show

CHICAGO — Approximately 45 manufacturers of refrigeration equipment for restaurants and other food serving establishments will exhibit their wares at the National Restaurant Convention and Exposition in the Navy Pier here from May 10 to 14.

Some 450 firms have contracted for exhibit space in the 891-booth exposition which will occupy both north and south wings of the Navy Pier, the National Restaurant Association, sponsor of the event, has announced. Approximately 27,000 restaurateurs and representatives of allied industries are expected to attend.

The show is open to everyone in the industry and there is no admission charge. First day, May 10, has been designated "Dealer Day."

(Concluded on Page 4, Col. 4)

United Refrigerator Co. To Sell Own Line Of Milk Dispensers

HUDSON, Wis.—United Refrigerator Co. here has announced the appointment of Stuart Rabb to direct sales of its complete line of milk dispensers and other merchandising products.

United has long been one of the largest fabricators of stainless steel milk dispensers in the United States.

Heretofore, this production has gone to contract accounts but a recent agreement with patentee owners will hereafter permit United to merchandise, under its own label, a complete line of all stainless steel milk dispensers to be sold and serviced by a nationwide organization, the company said.

These units meet all recom-

(Concluded on Page 4, Col. 3)

New York Restricts Water Use In Face of New Drought

NEW YORK CITY—Faced with the prospect of another summer of critical water shortage, New York City officials have already issued restrictions on watering lawns, gardens, and streets.

None of the newly imposed water restrictions, however, put any additional curbs on air conditioning equipment. But, the city is undertaking an intensive campaign to find and repair all sources of water leaks, particularly in public buildings.

Officials of the city's department of water supply, gas, and electricity report that the water level in the city's reservoirs is at the lowest level in 25 years for mid-April. Normally, the reservoirs would be full to overflowing at this time of year, but at latest report they were only filled to 72% of capacity.

The city's reserves were estimated at 184,027,000,000 gals. with daily usage estimated at just over 1 billion gals. Water supply engineers said that if the water shed does not receive exceptional torrential rains by June 1, the situation may be serious by autumn.

CRMA Says '54 Sales Go Well, Stocks Stay Low

Commercial Refrigerator Group Continues Efforts Against Easier Terms

CHICAGO — Top management and sales executives of the commercial refrigerator industry attending the Annual April Meeting of the Commercial Refrigerator Manufacturers Association here April 8 and 9 took a searching look at 1954 prospects and pronounced them good, with industry sales in the first quarter exceeding the same 1953 period by nearly 11%, according to the individual members' monthly reports to the association.

Although fully aware of recessionary trends in some lines, the delegates were strongly of the the opinion that there is enough good business in sight to warrant their conclusion that 1954 may very well exceed all previous years in volume, with the possible exception of 1950. Sales of the industry in 1953 were 11.9% ahead of 1952, but fell short of 1950's record-breaking output by some 12%.

Conditions among the industry's dealers were surveyed and reported to be excellent, with the majority continuing to apply sound business methods. Inventories of equipment on dealers' floors were said to be uniformly low, and, therefore, favorable.

One of the discussion leaders at the meeting congratulated manufacturers generally for their "commendable restraint" in refraining from overloading their dealers

(Concluded on Page 16, Col. 1)

Pritchett Is Friedrich National Sales Manager

SAN ANTONIO, Texas—Reese L. Harrison, president of Friedrich Refrigerators, Inc., has announced the appointment of Jack Pritchett as national sales manager.

Jack Pritchett

In his new post, Pritchett will travel a great deal to build up the sales staff of both national and regional distributors, Harrison said.

Ralph S. Penn Named Penn Controls Pres.

GOSHEN, Ind. — At a recent annual meeting, the board of directors of Penn Controls, Inc., appointed Ralph S. Penn as president of the company to succeed Albert Penn who was appointed chairman of the board.

Ralph S. Penn, a graduate of Yale university, joined the Penn company in 1937, where he served as manager of several district offices. After serving 3 years in the U. S. Navy during World War II, he returned to Penn in 1946 as manager of the Special Products

(Concluded on Page 4, Col. 5)

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XUM

CEE Specifications Cover Safety Requirements For European Appliances

NEW YORK CITY — Specifications that will insure the safety of those who use electric-motor and magnetic-operated appliances has just been released by the International Commission on Rules for the Approval of Electrical Equipment (CEE).

Publication No. 10, Specification for Electric Motor-Operated Appliances, contains the rules considered necessary by the 15 European countries composing CEE, for the safe operation of certain appliances to be used in the home, farm, office, and similar places.

It governs such items as vacuum cleaners, sewing machines, fans, phonographs, food and drink mixers, refrigerators, clothes and dishwashers and dryers, shavers and clippers, business machines, motion picture projectors, etc.

Because of the general use in Europe of 220 volts for lighting and appliances, many of the requirements for electrical apparatus are more severe than those imposed in the U. S. where the standard is 120 volts.

Copies of the publication may be obtained from the American Standards Association, 70 E. 45th St., New York 17. Price is $2 per copy.

Burks Named Philco Distribution Mgr.

PHILADELPHIA—Appointment of Paul E. Burks, manager of the Southern California Div., Philco Corp., as manager of distribution for the entire corporation, was announced recently by John M. Otter, vice president for Consumer Product Divs.

Burks will succeed James M. Skinner, Jr., who was recently named vice president of the Philco Corp. Television Div. He will assume his duties immediately at Philco headquarters here.

Burks joined Philco Distributors, Inc., Chicago, in 1943. Previously he was sales manager of the Artophone Corp., St. Louis, Philco distributor in that area. He was assigned to the Southern California Div. with headquarters in Los Angeles in 1948.

In his new capacity, Burks will direct field operations of the nationwide Philco distributor organization.

New Store, New Front for People's

TOLEDO — People's Outfitting Co., appliance concern, has opened a new store at 316 Monroe St. Ervin C. Epstein is president, general manager, and treasurer of the concern. About $35,000 was recently spent remodeling the building, including a new store front.

New Dallas Firm Makes Auto Air Conditioner

DALLAS, Texas—Formation of the Coldtemp Automobile Refrigeration Co., Inc., here to produce a 2½-ton automobile air conditioner using a light weight, high speed Tecumseh compressor has been announced by H. J. Humphreys, president.

The plant is located at 1400 E. Jefferson St. and will also serve as the local retail outlet. Production of the automobile air conditioner has already begun, according to the announcement.

Humphreys, whose background is in investment banking in Lubbock, Texas for the past 15 years, said that two years of research are behind the new unit, which has been road tested under all climatic conditions.

Other officers of the firm are W. B. Osburne, vice president and general manager; A. R. Hamilton, vice president and general sales manager; and Harold B. McCracken, secretary-treasurer and general counsel.

Osburne has spent 41 years in the automotive and manufacturing fields.

Hamilton has been an executive with the General Electric Co. for 28 years. McCracken is a former assistant attorney general of Texas and is a member of the law firm of Coffee, Cain, Read & McCracken.

Color Spreads to Other Frigidaire Appliances

DAYTON—Frigidaire automatic washers, clothes dryers, and upright food freezers now are available with Stratford yellow and Sherwood green exterior finish in addition to white, it was announced recently by H. J. Miller, appliance sales manager of the Frigidaire Div. of General Motors Corp.

He also revealed that while colored exteriors were available on only three refrigerator and four range models when the 1954 line was introduced in January, this has since been extended to cover all refrigerator and range models in the line.

"Experience taught us there was a demand for colored refrigerators and ranges of all sizes and at all price levels," Miller explained. "We also found a demand for laundry equipment and the food freezer in colors matching the refrigerator and range."

The colored products are being mass produced in two pastel colors, developed especially for use in kitchens. All ranges, washers, and dryers have porcelain finish. Refrigerators have Dulux finish, with a choice of porcelain in five models.

'Research Cottage' Will Include Air Conditioning

SAN ANTONIO—Air conditioning will be one of the features of the "Home Builders Research Cottage" now being built on Trinity University's Stadium Drive campus by students.

Forty Trinity home building students—37 men and three co-eds—assisted by the San Antonio Association of Home Builders and local suppliers of materials, have undertaken the construction project.

The 2,500-sq. ft. cottage will be air conditioned throughout and will be heated by a variety of methods. Kitchen area will contain "U," "L," and "strip" kitchens, with separate and different appliances.

The cottage is designed to (1) train Trinity home economics students in modern techniques of home family living, (2) provide a laboratory for Trinity students of home building, and (3) demonstrate new home products and display a variety of modern materials of interest to students and professionals of the home building business.

G-E Moves Home Heating, Cooling to Trenton and Expands Commercial Dept.

BLOOMFIELD, N. J.—The Air Conditioning Div. of General Electric Co. has announced a major expansion of its manufacturing operations "in a program to meet the growing demand for its products."

The expansion involves the transfer of G-E home heating and cooling equipment manufacturing out of Bloomfield to plants in Trenton, N. J. and Bridgeport, Conn., according to S. J. Levine, general manager of the Home Heating and Cooling Dept.

The Trenton plant was acquired by the Home Heating and Cooling Dept. last summer and some manufacturing operations have already been moved there. The Bridgeport facility is in an existing General Electric plant in that city.

At the same time, G. K. Iwashita and H. M. Brundage, general managers of the Commercial Products and Weathertron departments, respectively, announced that the transfer of Home Heating and Cooling operations will clear the way for expansion of manufacturing facilities for their departments.

Commercial Products Dept. makes packaged commercial air conditioners and drinking water coolers for commercial and industrial buildings. The Weathertron Dept. manufactures G-E's heat pump.

When the expansion program is completed sometime next year, Weathertron and Commercial Products operations will be located at Bloomfield; the Bridgeport plant will produce G-E boilers and related components; and the Trenton plant will manufacture home cooling units and gas and oil-fired furnaces.

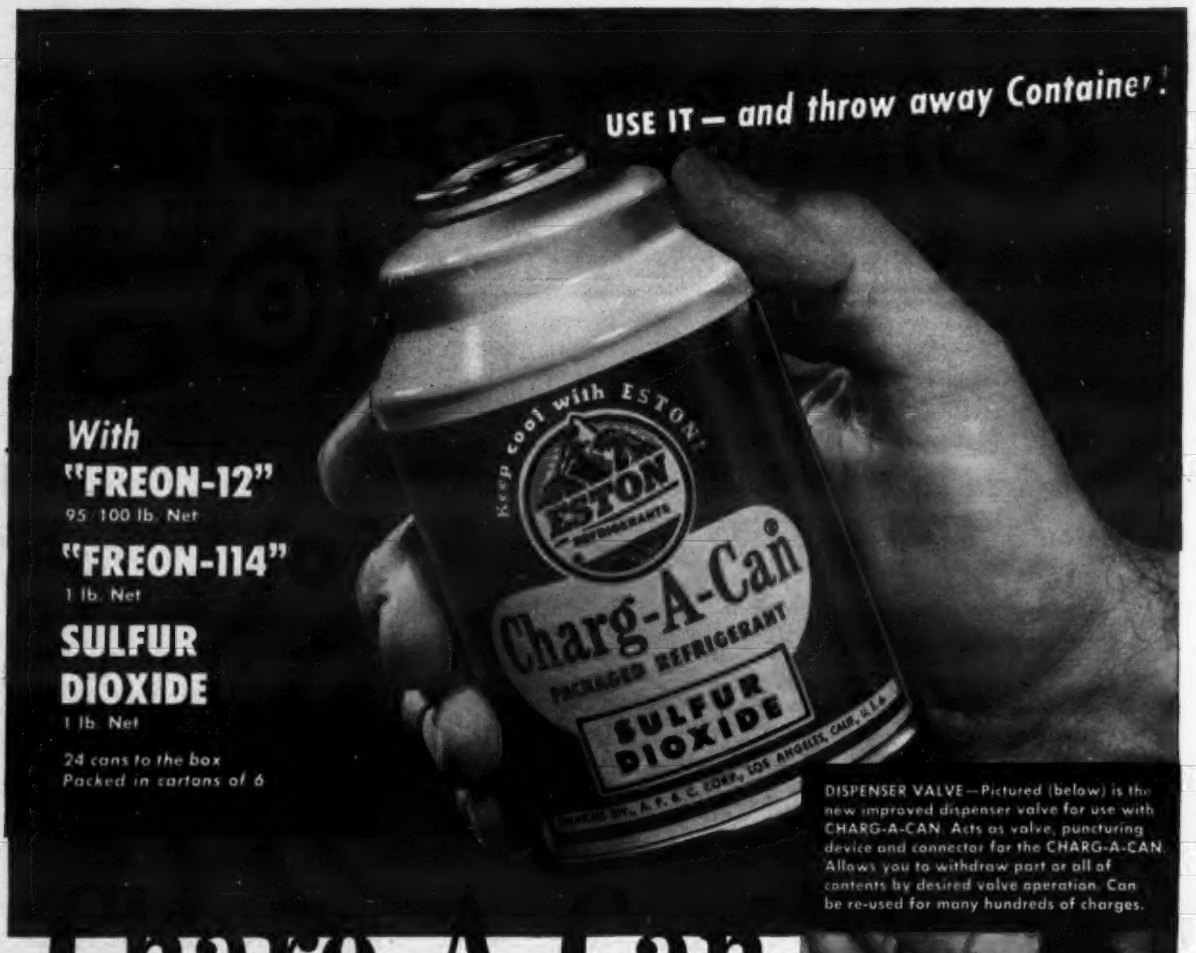
Home Heating and Cooling Dept. headquarters will remain at Bloomfield.

Dinkler Plaza Will Get Cooled 15-Story Addition

ATLANTA — Carling Dinkler, Sr., president of the Dinkler chain of hotels, announces that a 15-story addition to the Dinkler Plaza hotel here, to cost an estimated $2,000,000, is to be started immediately.

Dinkler said the entire building will be air conditioned.

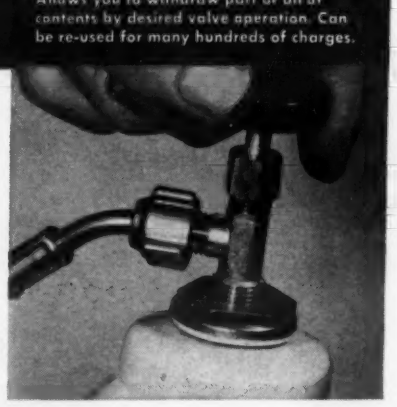
The firm of Byck-Worrell, general contractors, will be in charge of the construction work, it was stated.



DISPENSER VALVE—Pictured (below) is the new improved dispenser valve for use with CHARG-A-CAN. Acts as valve, puncturing device and connector for the CHARG-A-CAN. Allows you to withdraw part or all of contents by desired valve operation. Can be re-used for many hundreds of charges.

Charg-A-Can

PACKAGED REFRIGERANT



Now available in attractive, new 6-can Handi-Pack containers for ease in handling, stocking and display.

You'll save time and money with Eston's **Charg-A-Can** disposable refrigerant containers. Convenient to carry. Safe and easy to use. **Charg-A-Can** units are filled under carefully controlled conditions, with all material expertly analyzed for purity. Available with "Freon-12" in 95/100 pound net contents, "Freon-114" in one pound net contents and Sulfur Dioxide in one pound net contents. **Charg-A-Can** is the practical, and economical answer to your refrigerant needs.

YOU BENEFIT 4 WAYS

1. Elimination of Cylinders
2. Economical—No Waste
3. Factory Control of Purity
4. Usable in Accurate Amounts

Call Your Local Eston Wholesaler—Or Secure His Name From

ESTON CHEMICALS DIVISION

TRONA INDUSTRIAL AND AGRICULTURAL CHEMICALS

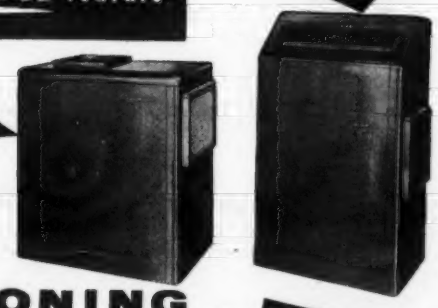
American Potash & Chemical Corporation

3100 E. 26th ST., LOS ANGELES 23, CALIFORNIA

The ORIGINAL Air Conditioner with the CONVERTIBLE feature

PLENUM TOP FOR COMMERCIAL USE

DUCT TOP FOR HOMES



Lipman AIR CONDITIONING

WRITE TODAY!

Here's the answer to air conditioning sales . . . the Lipman "Convertible" . . . only the top is changed! Yes, use a plenum top for commercial jobs, a duct top for home installations. You stock only the basic unit and the two tops for lower inventory! Write Lipman Division of Yates-American, Beloit, Wis., for complete specifications and capacities.

TERRITORIES AVAILABLE!

LIPMAN REFRIGERATION
Division of YATES-AMERICAN

Gentlemen: I am interested in selling Lipman Air Conditioning. Please send information.

FIRM NAME_____

INDIVIDUAL_____

ADDRESS_____

CITY_____ STATE_____

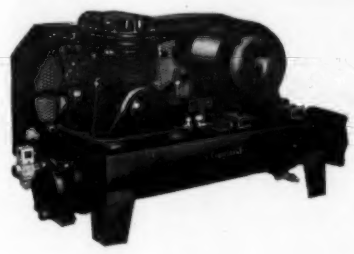
MORE COILS are made by KRAMER than by any . . . . other coil manufacturer

What's Behind a Tradition?

mind your P's and Q's!

This familiar admonishment originated several hundred years ago in England's beer-halls, where beer and ale were traditionally served in pint and quart pitchers.

Each bon vivant's consumption was tabulated on a slate, by means of a mark placed under "P" for pints, or "Q" for quarts. When a patron approached the tipsy stage, he was cautioned by the sharp-eyed tavernkeeper to "Mind your P's and Q's" . . . a gentle reminder not to lose track of his mounting bar bill!



Belt-Driven Units for all Applications

Copeland belt-driven units have a well-earned record of dependability. Ruggedly built, with fabricated steel base, multi-belt drive, high-efficiency condensers. All fittings easily accessible. Remote, belt-driven air-cooled models from ¼ HP through 3 HP. Water-cooled ½ HP through 7½ HP.

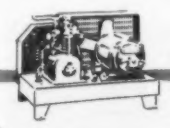
minding our P's and Q's helped build the Copeland tradition

Dependable refrigeration equipment is built around two standards at Copeland . . . "Performance" and "Quality." Close attention to these P's and Q's has resulted in the ruggedness and reliability by which COPELAMETIC units are known around the world.

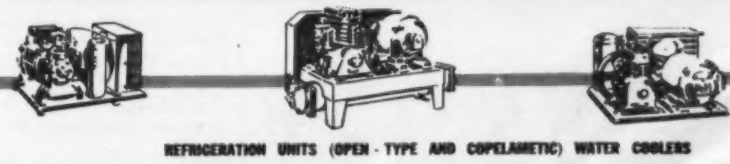
Practical ingenuity has designed COPELAMETIC *without* belts, seals, or manual oiling . . . yet provides complete accessibility. These quality features reduce maintenance costs as much as 90%! If service should ever be needed (and that's rare) it can be done instantly, on the spot. No extended shutdowns, no need to send the unit back to the factory.

COPELAMETIC's performance is quiet, steadfast, economical. Produces high BTU at minimum cost. Compact design makes it easy to install. Copeland's line is complete . . . there's a COPELAMATIC remote unit for *every* refrigeration situation. Air-cooled models through 3 HP, water-cooled through 7½ HP.

***WRITE TODAY** for information on the complete, dependable Copeland line . . or see your refrigeration dealer.*



Copeland
DEPENDABLE *Electric* REFRIGERATION



REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC) WATER COOLERS

COPELAND REFRIGERATION CORPORATION • SIDNEY, OHIO

Data Collected on Water Savers--

(Concluded from Page 1, Col. 3)

plans at the afternoon and evening session.

Commenting on the tremendous growth of residential air conditioning, Millsom cautioned, "we can only see this residential business continue to grow if operating costs are reduced."

Electricity costs for operating such equipment are generally about the same throughout the country, although cost per season will vary with the climate, he said.

"In the Detroit area power costs will run $15 to $35 a season, depending chiefly on the size of the equipment. But in suburban communities water and sewage costs are high, much higher than in Detroit proper. And it is in these suburban areas that the big market for residential air conditioning lies today."

Similar conditions prevail throughout the country, according to Millsom, because many suburbs pay high rates for tying into the water and sewage lines of the big city which they surround.

$99.50 SAVED

In the city of Birmingham, Mich., a wealthy community a few miles north of Detroit, water for direct cooling of a 3-ton air conditioning unit costs $130 for a 1,000-hour season, according to Millsom. A cooling tower would cost $30.50 to operate, representing a savings of $99.50 for the season, he said.

His figures were based on water rates of $2 per 1,000 cu. ft., sewage charges of $1 per 1,000 cu. ft., and electricity at $.04 per kwh.

On the 3-ton job, power cost for operating the cooling tower for the 1,000-hr. season Millsom estimated at $24 with another $6.50 for water, the tower being assumed to recirculate 95% of the water.

COMMERCIAL BENEFITS, TOO

Even greater savings are shown on larger units, Millsom said, pointing out that the figures will apply to most commercial applications as well as residential.

Direct water for a 5-ton job in Birmingham, according to his figures, would run $217 per season, while the tower cost (water and power) would be $50.85, a savings of $116.15.

On an 8-ton job, a cooling tower would drop water cost from $325 to $80.25 (including electricity for the tower); on a 10-ton job, from $434 to $105.70; on a 15-ton system, from $652 to $128.60.

Figures similar to these for other Detroit suburbs were also cited by Millsom. The rates are double or more those charged in Detroit proper.

United Refrigerator--

(Concluded from Page 1, Col. 4)

mended requirements of the United States Public Health Services codes and comply with state and local ordinances.

Rabb recently resigned as director of sales and advertising for Norris Dispensers, Inc. at Minneapolis to accept his new position. During the three and a half years he was with the Minneapolis firm, sales of milk dispensers had increased approximately sevenfold.

Ammel Appointment--

(Concluded from Page 1, Col. 3)

with Kelvinator in 1936 in Chicago. He came to Kelvinator headquarters in Detroit on Oct. 1, 1944, and since then has served in various sales engineering capacities.

Ammel studied at Loyola university (Chicago), DePaul university, Illinois Institute of Technology, and Northwestern university. At the latter two he majored in engineering.

A member of the American Society of Refrigerating Engineers, he was chairman of its Detroit section in 1950-51 and now is national chairman of the food storage and dispensing equipment technical committee. He also is a member of the Refrigeration Service Engineers Society and is a registered professional engineer.

Restaurant Show--

(Concluded from Page 1, Col. 4)

The exposition will be open only to dealers so that they can contact the exhibiting firms they represent.

Hours will be from 9 a.m. to 6 p.m.

The show will be open for restaurateurs and all others engaged in institutional feeding from Tuesday, May 11, through Friday, May 14.

Hours will be from 8:30 a.m. to 6 p.m.

Concurrently with the exposition, the NRA will hold its 35th annual convention in the meeting hall in the south wing of the pier. General business sessions will be held in the morning and "shop talk" sessions for special interest groups will be staged in the afternoon.

By and large, both morning and afternoon sessions will be conducted by restaurateurs themselves.

Highlight of the program will be a talk on the "Expanding American Economy" by Averill Harriman, president of Brown Brothers, Harriman & Co., and former U. S. secretary of commerce and ambassador to Great Britain. Annual banquet will be held in the Conrad Hilton hotel on Thursday night, May 13.

Don McNeill of "Breakfast Club" fame will act as master of ceremonies for the floor show following the banquet. Among the stars will be Morton Downey and his Trio, according to the announcement.

Special busses will operate from five loop hotels directly to the Navy Pier between 7:45 a.m. and 9:30 a.m. daily.

Industry firms already scheduled to exhibit in the exposition, with their booth numbers, are as follows:

List of Industry Firms Exhibiting

Ajax Corp. of America	S-1361-62
American Automatic Ice Machine Co.	S-1339-40
American Gas Machine Co.	S-1343-44-45
Anheuser-Busch, Inc.	S-1176-77
Bastian-Blessing Co.	S-1017-21
Brewer-Titchener Corp.	S-1616
Carbonic Dispenser, Inc.	N-309-10
Carrier Corp.	S-1015-16
Cory Corp.	N-131-32
Dunhill Soda Fountain Corp.	S-1381-82
Ebco Mfg. Co.	S-1347-48
Fogel Refrigerator Co.	N-188-89
Foster Refrigerator Corp.	N-108-09
Frigidaire Div., General Motors Corp.	N-406-09
Lloyd J. Harriss Pie Co.	S-1291-92
Herrick Refrigerator Co.	S-1337-38
Hotpoint, Inc.	N-114-17
Howard Refrigerator Co., Inc.	S-1437
Ice Appliances, Inc.	S-1243
Ideal Cooler Corp.	N-255
Jordon Refrigerator Co., Inc.	N-14-15-16
Stanley Knight Corp.	S-901-04
Koch Refrigerators, Inc.	N-443-44
Leitner Equipment Co.	S-1373-76
Lern, Inc.	N-810
Majestic Enterprises, Ltd.	N-816
Mallow Products, Inc.	N-318
McCall Refrigerator Corp.	S-1137-38
Nash-Kelvinator Corp.	S-1289-90
Norris Dispensers, Inc.	N-276-77
Port Morris Machine & Tool Works	N-805
Progressive Metal Equipment, Inc.	N-124-27
Puffer-Hubbard Mfg. Co.	S-1323-24
Selmix Dispensers, Inc.	S-905-06
Silvercraft, Inc.	S-1369-70
Stainless Food Equipment Co.	N-207-10
Star Metal Mfg. Co.	S-1055-59
Sunroc Co.	S-1618
Sweden Freezer Mfg. Co.	S-1534-37 S-1634-37
Temprite Products Corp.	N-827
United Refrigerator Co.	N-525
Victory Metal Mfg. Co.	S-1383-88
Henry Vogt Machine Co.	S-1351-52
Wilson Refrigeration, Inc.	N-153-54
Yates-American Machine Co.	N-522
York Corp.	S-1400-01-02

R. S. PENN

ALBERT PENN

Ralph S. Penn Elected--

(Concluded from Page 1, Col. 5)

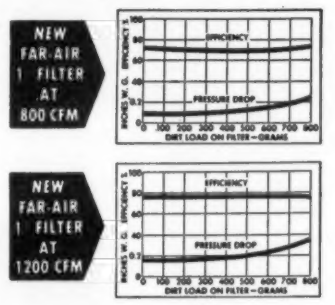
Division. He was appointed vice president in charge of manufacturing in 1949, and more recently served as executive vice president.

Albert Penn, founder of the company in 1919 and president since its incorporation in 1928, led the company from a one man organization to its present position in the automatic control field.

Other officers re-elected by the board were: Ralph Penn, treasurer; Edward B. Maire, vice president; and James M. Reid, secretary.

- Holds 7 times as much dirt as ordinary filters
- Gives sustained high performance with low pressure loss
- Can be used at either high or low velocity

HERE'S PROOF



These graphs show actual performance of the new FAR-AIR High-Low Velocity 1" filter. Quantitative tests prove it's the best 1" filter on the market.

Permanent, scientifically designed and ruggedly built, it is easy to clean and eliminates the necessity for never-ending filter replacements in systems designed for 1" units. No longer need users put up with poor performance as ordinary 1" filters approach the useless point.

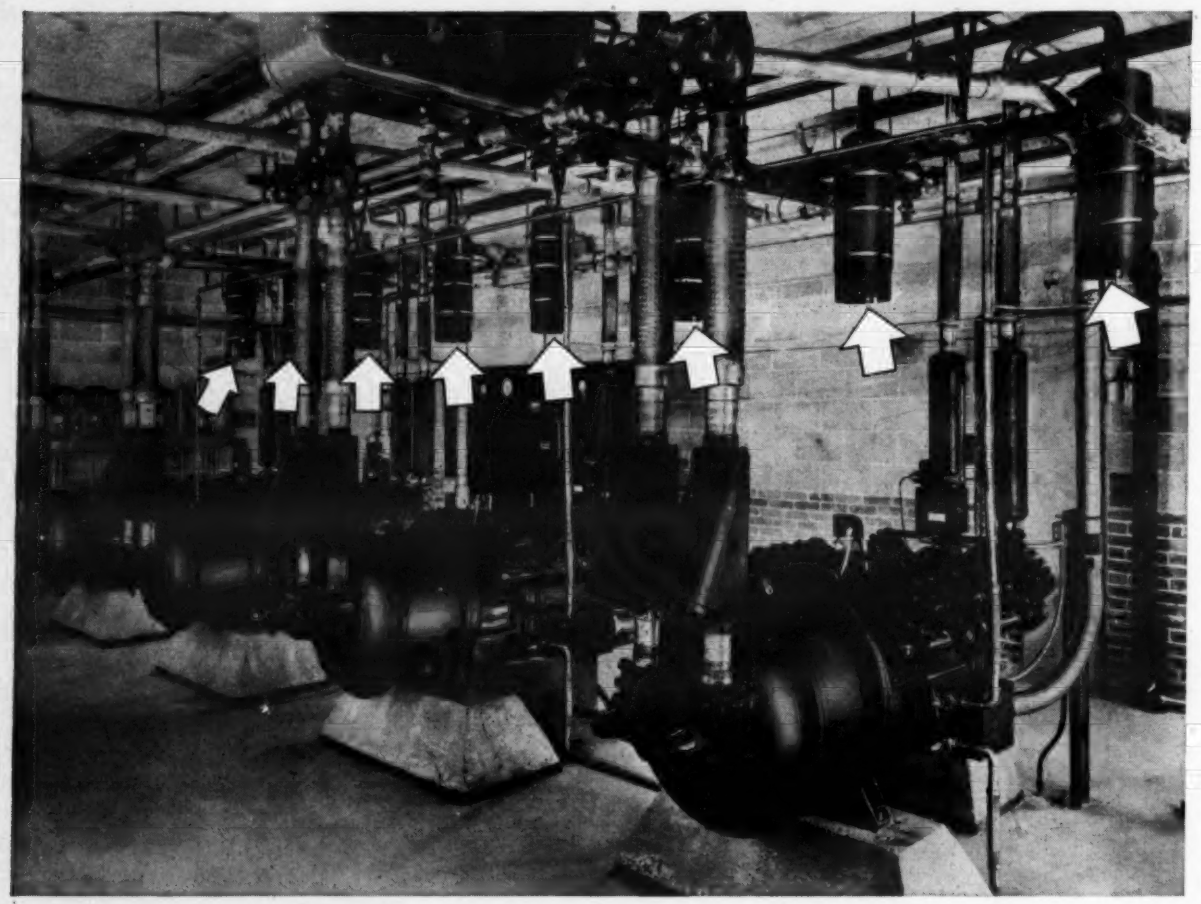
FAR-AIR 1" filters load progressively —like our 2"—and give you high efficiency air filtration without critical pressure loss right up to cleaning time. Cleaning is simple and easy. With reasonable care it will last indefinitely.

Here at last is the 1" filter all industry has been waiting for. Write today for complete information. Farr Company, P. O. Box 10187, Airport Station, Los Angeles 45, California.

ORIGINATORS OF FAR-AIR CERTIFIED FILTER SERVICE

FARR COMPANY
NO COMPROMISE ON QUALITY
Los Angeles, New York, Chicago, Memphis

MANUFACTURED UNDER LICENSE BY FARR COMPANY MANUFACTURING LTD., MONTREAL, CANADA



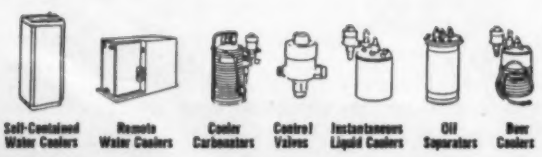
Temprite Oil Separators maintain high efficiency of air conditioning system at Denver Post!

Keep oil away from the low side and in the compressor where it belongs! Lower temperatures are then easily reached, the compressor operates on minimum time only, and the crankcase oil level remains constant. The refrigerant remains at its true boiling point—heat transfer is increased 15% to 20%—and the expansion valve operates more efficiently, free from oil, dirt and corrosion. Do it all with a Temprite Oil Separator.

The Denver Post air conditioning system, installed by the T. C. Alexander Company of Denver, has been in operation for 3½ years, performing at very high over-all efficiency—thanks, in large measure, to eight Temprite Oil Separators (two to each 100 ton machine).

Temprite Oil Separators are available in sizes from 1/6 to 150 tons.

Temprite
PRODUCTS CORPORATION ★ BIRMINGHAM, MICHIGAN



TEMPRITE PRODUCTS CORP.
P.O. Box 72A, Birmingham, Michigan
☐ Please send me complete data on Temprite Oil Separators
☐ Ask your representative to call
Name_____
Address_____ Zone_____
City_____ State_____

MORE COILS ARE MADE BY KRAMER THAN BY ANY OTHER COIL MANUFACTURER

Norge Refrigerator Shipments Up In Quarter

CHICAGO — First quarter factory shipments of Norge refrigerators are up 77% and dealer shipments up 20% over the same period last year, it was reported recently by the Norge Div. of the Borg-Warner Corp.

At the same time the division said March factory shipments of Norge automatic washers are up 57% and dealer shipments up 68% over the same 1953 months.

"All these figures run counter to industry trends," said R. C. Connell, director of sales. "They indicate tremendous acceptance of Norge's newly introduced four-model refrigerator line and the automatic washer models."

Connell predicted Norge will continue to exceed last year's figures, regardless of recent excise tax cuts which reduced prices on the company's refrigerators and other appliances.

To meet automatic washer production demands, Norge has put its Herrin, Ill., washer plant on a six-day week. This marks the first time since the end of the Korean war this measure has been needed.

City of Detroit Adopts '53 Version of B9 Code

DETROIT—One of the largest cities in the country which employs the ASA-B9 Safety Code for Mechanical Refrigeration, the city of Detroit's common council recently voted to adopt the 1953 revision of the code.

As with the 1950 revision of the B9 code, Detroit adopted by 1953 revision by reference. Full text of the code, however, is published in a handbook by the city's Department of Buildings and Safety Engineering along with the licensing, permits, and enforcement sections of the city ordinance which applies.

Staszak Files Business Name

BUFFALO — A business name has been filed in the Erie County clerk's office for Staszak's Appliance Sales & Service, 1708 Clinton St., Buffalo, by Richard A. Staszak.

Only Qualified Leads Offered

Chicago Electric Assn. Develops Plan To Assist Dealers Reach 'Ripe' Prospects

CHICAGO—Launching of a new dealer prospect lead development plan under which all leads will be carefully qualified has been announced by the local Electric Association.

The plan was set up in order to help dealers get the maximum benefit from the product promotions arranged by the association, it was pointed out.

"The Qualified Lead Plan," the association explained, "provides for select prospects being secured in two ways:

"1. Attendants have been employed and carefully trained to man the various appliance promotional shows being sponsored by the association during 1954 at the Marquette building of the Commonwealth Edison Co. and at the Modern Living Exposition.

"These men will ascertain the brand of appliance which is of special interest to the prospect and the extent of his or her interest. Carefully screened prospective customers will be recorded on 'Prospect Lead' forms.

"2. Telephone advertising will be conducted on a continuous basis with the help of a professional telephone soliciting organization. Only selected homemakers will be contacted."

Leads will be given to salesmen who have been registered with the association as representing dealer-members interested in following through these leads.

"Prospective customers," the association said, "are being advised they will be called on within five days from date of conversation, and reports as to contacts made must be given to the association. No more than five leads will be given to any one salesman until he has reported that he has contacted the prospects within the required period.

"Registered dealer salesmen will obtain only names of prospective customers in the section of Chicago they wish to cover.

J. & M. Distributing Corp. Named Deepfreeze Outlet

NORTH CHICAGO, Ill.—J. & M. Distributing Corp., Jacksonville, Fla., has been appointed distributor for Deepfreeze Appliance Div., Motor Products Corp., it was announced by L. R. Walker, Deepfreeze manager of field sales.

The firm will cover northern Florida, including Jacksonville, Daytona Beach, Tallahassee, Tampa, Ft. Myers, Orlando, Gainesville, and Ocala, excluding Pensacola.

Executives of J. & M. include M. Felder, president; J. Brodman, vice president; and J. Arva, sales manager.

Westinghouse Opens New Consumer Products Sales Office In Central Region

CLEVELAND — Westinghouse Electric Corp. has opened here a consumer products sales office which will direct sales of the company's appliances, TV sets, and radios throughout the central region, it was announced recently.

Centralizing operations which formerly were carried out from Pittsburgh, Mansfield, and Detroit, the central region consumer products headquarters occupies 5,100 sq. ft. of office space at 1740 East 12th St.

The firm's apparatus and industrial products sales activities in this area continue to be directed by the Westinghouse district sales office in the Standard Bldg.

Directing the consumer products activities here are five Westinghouse regional managers. They are: W. A. Douglass, major appliances; W. H. Anderson, portable appliances; H. C. Bourns, refrigeration specialties; L. S. McLeod, television and radio; and J. W. Haines, Westinghouse Electric Supply Co.

Also to be located here are three regional service managers—one for appliances, one for TV and radio, and one for Wesco.

The central consumer products region includes all of Ohio, Michigan, Kentucky, and parts of Pennsylvania, West Virginia, Indiana.

Finance Plan Sparks Coolerator Spring Push

DULUTH, Minn. — Spearheaded by the newly organized IT & T finance plan, the Coolerator Co. has launched an intensive 90-day spring promotion, according to Gerald L. Hartman, Coolerator director of sales and advertising.

The new program is national in scope and will specifically emphasize sales of Coolerator refrigerators and air conditioners during April, May, and June.

Included in the promotional campaign are dealer incentives, consumer incentives, and special promotions on individual Coolerator refrigerator models. The highlight of the program is a free all-expense tour for dealers to Bermuda in August.

The IT & T finance program, under the direction of Robert M. Finch, newly appointed head of the IT & T Finance Div. operates through local banks. It includes a fully guaranteed dealer inventory plan plus completely endorsed recourse and non-recourse consumer credit plans.

REFRIGERATION IN 1907. There never seemed to be enough ice to last through S... get more. After he had wrestled it to the top of the box, there was always an edge that had ... it into the compartment. Mother told him to stop grumbling. The ice, she said, was n... thought it was fun—until they tracked spilled water into the parlor.

What changed th...

American ingenuity changed this picture. People ... wrestling ice and emptying drip-pans. The refriger... ... a big user of Bohn evaporators and other Boh... was free to develop today's automatic refrigerat... take for granted. Improvements haven't stopp... stop, if you make it your personal business ... one is permitted to destroy our freedom ...

REFRIGERATION AND AIR CONDITIONING PRODUCTS • FORGINGS • PISTONS ... INGOTS

... helping ... facturers to build ... ...y.

... the same for *you!*

... VISION OF GENERAL MOTORS ... N. Y., U. S. A.

CARBURETORS AND ROCHESTER CIGAR LIGHTERS

HOME & FARM FREEZERS

'Box Social' Promotes Refrigerators, Freezers

CINCINNATI—To dramatize the spaciousness of the interiors of new model home freezers, refrigerators, and combination refrigerator-freezers and their convenience as compared with the equipment now used in many homes, the Cincinnati Electrical Association and the Cincinnati *Times-Star* are sponsoring a "box social" promotion from April 20 to May 15.

Main event of the box social is being staged in the lobby of the Cincinnati Gas & Electric Co. where a display of these appliances is set up. The utility is also promoting them with newspaper advertising, spot radio announcements, billboards, and transit advertising.

The *Times-Star* will run daily stories about the promotion and a contest slated for May 3 to May 15, along with an invitation coupon inviting the reader to the box social in the utility's lobby. The contest will emphasize that it is as easy to prepare a banquet as a box lunch with a home freezer.

The coupon will entitle the contestant to place a dummy package of frozen food in one of the freezers on display. Audible signals set off when the freezer is opened will determine daily winners. Daily prizes will be frozen foods. Major prizes will be cash awards and a freezer or refrigerator.

Moore-Handley Handles Ben-Hur In Eastern Tenn.

MILWAUKEE — Ben-Hur Mfg. Co. announced the appointment of Moore-Handley Hardware Co., as Ben-Hur freezer distributor for the Chattanooga and Knoxville, Tenn., trading areas which covers parts of five states.

Beresford Joins Revco as Mgr. of Contract Sales, Field Development Work

DEERFIELD, Mich. — H. C. Beresford has been named manager of contract sales for Revco, Inc., according to Harold Overmyer, vice president in charge of sales for the food freezer manufacturing firm.

H. C. Beresford

He brings to Revco an extensive background in product development and marketing which has included national brand distribution and contract sales.

Prior to joining Revco he was director of sales and advertising at the Coolerator Co. Before that he had been sales manager of the American Home Appliance Div. of the Murray Corp., according to the announcement.

Beresford will devote his time to field development of three newly-announced Revco products, an air-cooled, portable air conditioner mounted on caster assembly, a built-in food freezer and refrigerator combination, and a new dropleaf kitchen table with built-in 6-cu. ft. freezer designed as a space saver.

Helps To Solve Space Problem

TO UTILIZE wasted space underneath kitchen tables, Revco has developed this combination dropleaf table and 6-cu. ft. drawer-type freezer. New market seen for this compact unit includes small kitchens where there is no room for a freezer, "extra" freezer storage space within easy reach, and for use in cottages, motels, and apartments. Dropleaf table-top will be available in a variety of colors.

Mann Gets Contract for 55 Freezers for N.Y. Schools

NEW YORK CITY—The New York City Dept. of School Supplies has awarded two contracts totaling 55 model 18.5 Manitowoc upright freezers to the local Manitowoc distributor, Mann Refrigeration Supply Co.

These freezers will be installed in 49 junior high schools and six elementary schools selected by the director of school lunches. They will be used for storage of ice cream and other foods on the school children lunch menus.

NEMA Freezer Sales Reach 49,017 In January; 17,578 Uprights Included In Total

Summary for January, 1954

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for freezing and/or storage of frozen foods.

JANUARY (23 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	*338	*....	*....	*338
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest Models	2,277	42	173	2,492
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	2,162	1	64	2,227
Upright Models	†174	†....	†11	†185
5. 11 and 12 cu. ft.				
Chest Models	3,721	141	106	3,968
Upright Models	6,072	26	186	6,284
6. 12.5 to 17.4 cu. ft.				
Chest Models	14,837	219	85	15,141
Upright Models	5,558	59	55	5,672
7. 17.5 to 21.4 cu. ft.				
Chest Models	6,259	67	30	6,356
Upright Models	4,765	21	4	4,790
8. 21.5 to 30.4 cu. ft.				
Chest Models	884	27	6	917
Upright Models	‡646	‡....	‡1	‡647
9. 30.5 to 40.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
10. 40.5 to 50.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
11. 50.5 to 60.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
12. 60.5 cu. ft. and over				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
Total Chest Models	**30,478**	**497**	**464**	**31,439**
Total Upright Models	**17,215**	**106**	**257**	**17,578**
Total All Models	**47,693**	**603**	**721**	**49,017**

*Chest models for items 1 & 2 combined because of possible disclosure of individual company data.

†Upright models for items 1-2-3-4 combined because of possible disclosure of individual company data.

‡Upright models for items 8 & 9 combined because of possible disclosure of individual company data.

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Ben-Hur Mfg. Co.; Carrier Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co.; Masterfreez Home Locker Mfg. Co.; Maytag Co.; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Revco, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.

Here, tube clamp is spot welded to tubing lines of Bundyweld in evaporator of home freezer. This leading manufacturer of home freezers, Deepfreeze Appliance Division of Motors Products Corp., knows that Bundyweld takes easily to intricate bends; holds up under the most complicated fabrication steps.

Most tubing problems evaporate when you switch to Bundyweld

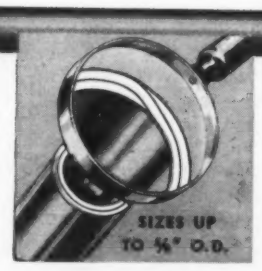
WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . .

continuously rolled twice around laterally into a tube of uniform thickness, and

passed through a furnace. Copper coating fuses with steel. Result . . .

Bundyweld, double-walled and brazed through 360° of wall contact.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

MORE COILS ARE MADE BY KRAMER THAN BY ANY OTHER COIL MANUFACTURER

8 Commercial Dishwasher Mfrs. Qualify for Sanitation Foundation Seal of Approval

ANN ARBOR, Mich.—The National Sanitation Foundation has announced that eight manufacturers of commercial dishwashing equipment were recently granted permission to use the NSF testing laboratory's seal of approval.

After being tested by members of the laboratory staff, 142 models of the following companies were found to meet specifications of Standard No. 3, "Spray-Type Dishwashing Machines":

G. S. Blakeslee & Co., Chicago; Champion Dishwashing Machine Co., Erie, Pa.; Colt's Mfg. Co., Autosan Machine Div., Hartford, Conn.; Faspray Corp., Red Bank, N. J.; Hobart Mfg. Co., Troy, Ohio; Insinger Machine Co., Philadelphia; Toledo Scale Co., Rochester Div., Rochester, N. Y.; and Universal Dishwashing Machinery Co., Nutley, N. J.

The foundation said the eight manufacturers joined the 67 other companies in the soda-fountain luncheonette and food-service fields from coast to coast which are entitled to use the NSF laboratory's approval seal.

"The seal may be affixed only to equipment found, after testing, to comply with the sanitation standards jointly established by representatives of the industry and public health agencies, and published by the foundation," NSF further explained.

Additional companies in all three fields in which standards have so far been published are to be given an opportunity to have their equipment tested and approved for use of the seal during this month.

The foundation also reported that a revised draft of Standard No. 4, "Commercial Cooking and Warming Equipment," was being prepared for mailing to the joint health committee, the industry task committee, and other collaborating groups for final editing before going to the NSF Council of Public Health Consultants for final approval.

Set Theme for NAMA's '54 Convention Program

CHICAGO—"Blueprint for Progress" has been selected as the theme of the 1954 convention program of the National Automatic Merchandising Association, according to General Program Chairman Frank J. Bradley, Automatic Equipment Corp., Buffalo.

The association's convention and exhibit is scheduled for Oct. 10-13 in Washington, D. C., according to the announcement.

Market Remodeling Will Cost $250,000

CLEVELAND — Complete remodeling of the commercial refrigeration system in the West Side Market here, a project representing an outlay of more than $250,000, has been started by Refrigeration Sales Corp., Cleveland contracting firm.

This is believed to be the largest refrigeration contract let in the area in a number of years.

The remodeling project calls for 102 tons of Carrier refrigeration for 13 cold storage rooms, one freezer room, and 1,800 ft. of custom stainless steel display cases.

Additional Refrigeration Will Make Supplier Biggest In Area

BUFFALO—Bob H. Ford, head of the provisions business bearing his name, is planning a $125,000 expansion program including installation of a large amount of new refrigerating equipment. The program will make his firm the largest provision house of its kind in western New York.

A cooler with a capacity of less than a carload is being enlarged to handle about seven carloads. A freezer is being built that will contain 90,000 lbs. of produce, more than six times the capacity of the present freezer.

Trustees Permitted To Sell Muntz Air Conditioners

CHICAGO—Trustees of Muntz TV, Inc. have been authorized to sell 2,228 Muntz room air conditioners to pay off notes totaling $226,734, it was reported here recently.

Authorization was granted by Judge Win G. Knoch of U. S. District Court here, before whom creditors have filed an application for reorganization of the company. The notes, held by A. S. Kirkeby, Nathan S. Goldstein, and Ernest G. Jarvis, are secured by the air conditioners, which are stored in New Orleans and Detroit.

C. Wylie Allen and Floyd G. Dana are trustees for Muntz TV, Inc.

L. L. Carter Heads RTA; 6 New Officers Named

RICHMOND, Va.—L. L. Carter of Winston-Salem, N. C., was elected president of the Refrigeration Trade Association at its second annual convention here.

C. W. Phillips, retiring president, has been named executive secretary. Other officers are R. H. Packett, first vice president; J. B. Broughton, second vice president; Leo Wolff, treasurer; Ray L. Dillard, secretary; Franklin Attkisson, sergeant-at-arms.

Elect Fitch Vice President Of American Air Filter

MOLINE, Ill.—Howard M. Fitch, general manager of the Herman Nelson Div., Moline, has been elected a vice president of American Air Filter Co., Inc., Louisville, Ky.

Joining AAF as a sales engineer in June, 1936, Fitch served as production manager, manager of the legal and patent department, and assistant to the executive vice president before becoming manager of the Herman Nelson Div. in 1953.

Frigidaire Sales Corp. Builds New Distribution Center In Fort Worth

FT. WORTH, Texas—A 61,000-sq. ft. distribution center and office headquarters for Frigidaire Sales Corp., a subsidiary of General Motors Corp., is being built here on the East-West Freeway at Montgomery St.

H. L. McGurk, Frigidaire branch manager, said the building is scheduled for completion in the fall.

The building will include approximately 25,000 sq. ft. of air conditioned office space and an auditorium seating 250 persons, with arrangement for dividing the room for smaller meetings. The auditorium will have two stages, one of which will be equipped with a complete Frigidaire kitchen for home economics demonstrations.

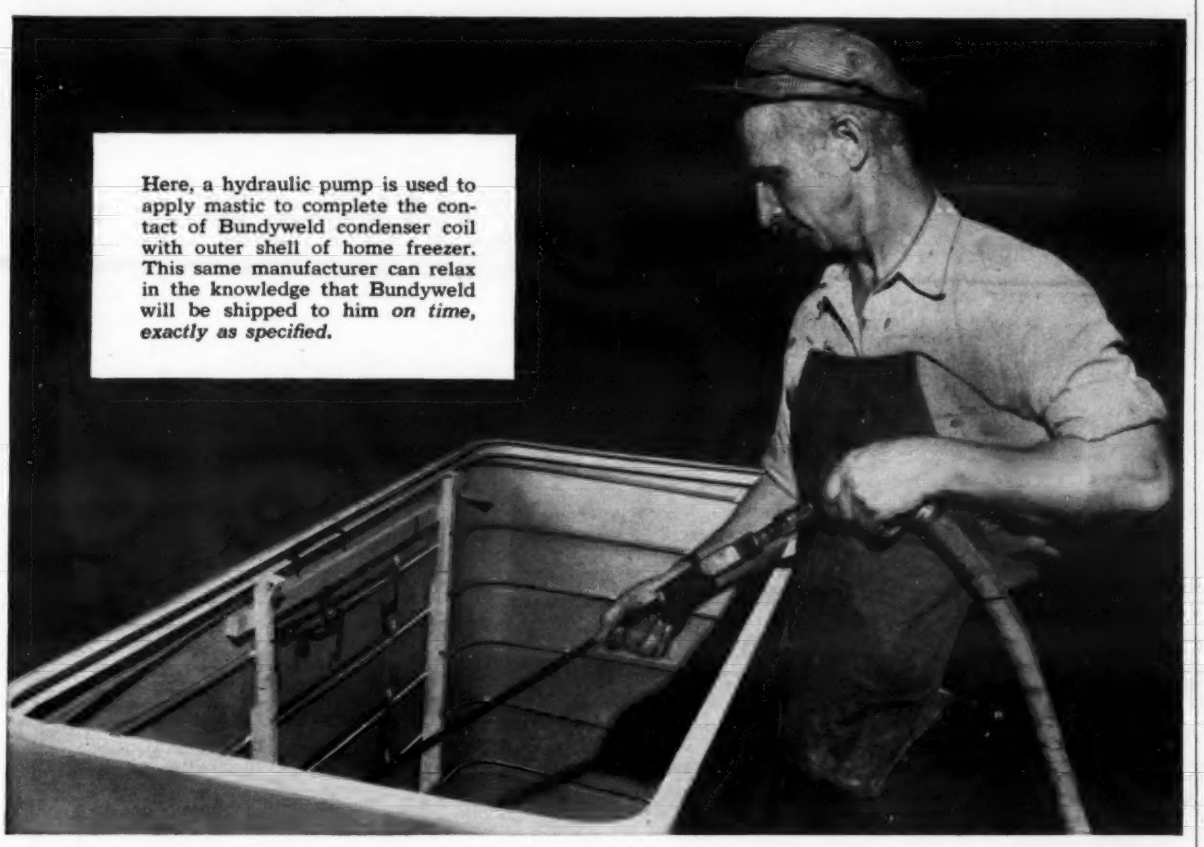
The remainder of the building will be devoted to warehousing. There will be facilities for unloading five railroad cars at a time, and docks for seven trucks. A parts department will have a special entrance and its own truck dock.

The Frigidaire branch in Ft. Worth, now located at 2601 W. Seventh St., employs some 80 persons. It is responsible for the distribution of Frigidaire household appliances and commercial refrigeration and air conditioning products in east Texas, all of west Texas including the Panhandle, and parts of Arkansas, Oklahoma, and New Mexico.

Sheperdson To Speak at RSES Meeting In Danville

CHICAGO—John P. Sheperdson, a Chicago representative of Bush Mfg. Co. and Heat-X-Changer Co., will be guest speaker at the RSES meeting in Danville, Ill., May 4.

He will present an illustrated talk on "Water Saving Equipment" and briefly describe a few of the new Bush and Heat-X products.


Here, a hydraulic pump is used to apply mastic to complete the contact of Bundyweld condenser coil with outer shell of home freezer. This same manufacturer can relax in the knowledge that Bundyweld will be shipped to him *on time, exactly as specified.*

Refrigeration manufacturers have known for years that most tubing problems disappear when they use Bundyweld for evaporators, condensers, compressors, refrigerant lines, other tubing parts.

Why not join the ranks of people who enjoy the peace of mind that comes from using a tubing so dependable *it's the safety standard of the refrigeration industry?*

This safety record *is no accident;* it's based on *inherent* tubing quality. Bundyweld is leakproof; thinner walled yet stronger; has high bursting strength; takes easily to standard protective coatings; bends safely to short radii.

Manufacturers who turn to Bundyweld soon discover that Bundyweld, and Bundy's plus-services, help them make a better product—usually with appreciable cost savings. For example:

When you do your own fabricating: Whether you prefer long coils up to 4000′ or straight lengths, you'll get clean, bright, ready-to-use tubing, shipped to you *on time,* exactly as specified.

If you need fabricated tubing parts: We'll carefully produce them; carefully clean, inspect, custom-package them; ship them *on schedule*—clean and bright, ready for assembly.

When you have a tubing problem that won't evaporate: Our skilled engineers have years of experience in problem-solving; specialize in showing Bundy customers ways to save time, trouble, and money. They welcome the chance to help you with your problem. Call, write or wire for data or for help on your tubing headache.

BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN

BUNDYWELD TUBING®
DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: *Bridgeport, Conn.:* Korhumel Steel & Aluminum Co., 117 E. Washington St. • *Cambridge 42, Mass.* Austin-Hastings Co., Inc., 226 Binney St. *Chattanooga 2, Tenn.:* Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Los Angeles 58, Calif.:* Tubesales, 5400 Alcoa Ave. • *Philadelphia 3, Penn.:* Rutan & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave., South • *Toronto 8, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., East.
Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

Beverage-Air
BOTTLED BEVERAGE COOLERS
designed to speed CAFETERIA SERVICE

The fast cooling arrangement and easy accessibility to storage area make Beverage-Air Coolers the ultimate in speeding cafeteria service.

WET OR DRY COOLING . . .
Dual-Type control makes possible either wet or dry operation by a simple twist of the knob. Makes and releases ice automatically when operated wet giving long hold-over periods for peak loads. When operated dry, temperatures next to freezing can be maintained if desired. Convenient drain outlets are included.

SERVING CONVENIENCE
Hinged lids that open from either side into the storage area permit Beverage-Air to be used in counter arrangements or as individual dispensers. Bottled goods or square milk cartons can be corded or stacked upright. Stainless steel top railing and lids provide long lasting sanitary surfaces which together with the durable enameled sides are built to withstand constant abuse.

Shown above is Model CA63-SW with optional water faucet; featuring stainless steel top railing and lids with baked white enamel cabinet finish. Please write for complete information on this and other styles now available.

THE PUNXSUTAWNEY COMPANY
PUNXSUTAWNEY, PA.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

a ball game yestiddy," the barber conversationalized while lathering Owens. "I'd sure like to get my hands on that umpire."

Strapping his razor viciously the shaver continued:

"Yessir, I'd cut his throat, the bum."

At that moment a bellboy entered and paged a Mr. Mazotti.

"That's me," yelled Owens.

Frantically the barber toweled the lather off "Brick's" face. The latter grabbed his coat, ran, and never returned, ever, to the Fort Shelby barbershop.

That's what the boys down there tell us, anyway.

Ed 'Had' It

Ump Ed Rommel established two American League records while pitching for Connie Mack. In 1921 he lost 23 games. The next year he won 27.

Almost comparable switchabout was registered by Hal Newhouser of the Tigers, who lost 17 in 1947, and won 21 in 1948.

This Will Throw You

You've heard of games being "called" on accounta darkness, fights, and rain. Probably been there yourself when that happened.

But can you believe that a National League contest was umpire-ended for too much *sunshine?*

Fact. Cincinnati was the place. May 6, 1892, the date. After 14 scoreless innings Umpire Jack Sheridan sent the Cincinnati-Boston inepters (scoreless tie) to their dressing rooms. His ukase, which wasn't challenged:

"The sun was blinding batters, pitchers, catchers, and fielders to the point where they couldn't do their duties."

Love's Labor Lost

Doggedly for too many years Hank Soar was a frustrated defensive back for Steve Owens' New York football Giants. Then he was drafted into the U. S. Army.

Wartime the Gi'nts, like the rest of the league, were full of holes at nearly every position.

Hank returned on furlough.

Desperate, Stout Steve put him in at quarterback. All Soar did was toss two touchdown passes, gain 197 yards, and win several games.

Glorious, eh? That's what you might think. Next week he was shipped out to Greenland.

When he returned his bones were too old and too cold for football.

Hank turned to baseball umpiring, and now is tops on the American League arbiter roster.

Hubbard, Inc.

Bellicose Mike Tresh, a White Sox catcher, uttered rude remarks about almost every "call" umpire Cal Hubbard made the first three innings.

"Shut your trap, you shrimp," the gigantic former Green Bay mayhem expert exploded. "I could pound you down so far into the Earth that a derrick couldn't lift you out again."

Tresh was awed into silence thereafter, by his own admission.

Now It Can Be Told

Confesses Tommy Henrich (a ballplayer's ballplayer): "In a World Series with the Dodgers I was caught off second base. Clearly I was in the wrong, but I jawed with Umpire Reardon.

" 'Lemme argue with you, Beans,' I pled. 'Won't look so bad that way.'

"Reardon, great guy, jawed right back—so I came back to the dugout a hero with the fans."

Babe Herman Stories

"Herman made a sensational catch of a simple fly ball," reported a sour scribe.

And that's how most of the writers felt about The Other Babe—despite his magnificent throwing arm, his RBI's, and his high batting averages.

The screwier-than-Ruth "Babe" (Herman) was starred astrology-wise to be a clown.

His return to the game, following years of retirement, was a revelation. World War II had denuded the major leagues of talent. Herman was recalled. First time at bat he singled sharply—and fell smack on his grinning puss over the first base sack. He continued to make managers pull head-hair out by the roots—but always batted .300 plus.

Babe Ruth Stories

Those Yankees were in town for a three-game series.

Pitcher from the home club, scheduled to face Tha Babe in contest No. 2, bethunk himself a clever idea.

With help from a convivial first baseman, he figured he might get Ruth so plastered the night before that Ruth couldn't see the ball next day.

So, this presumably smart pitcher conspired with his jovial first-sacker.

"If he singles, invite him out for a party while he's standing on your bag. I'll stand the bills," suggested the fearful tosser.

The invitation was accepted by Tha Babe.

Ruth accompanied his nominal host, plus relays of in-on-the-secret home club fans, on a round of bars which lasted all night and well into the following morning.

How did the strategy work? Tha Babe smacked two home runs and, on his fifth time at bat, a single.

"Wonderful party," Ruth sincered to the first baseman after the single. "Let's do it again tonight."

Final Umps Joke

Mystics insist that Satan challenged St. Peter, via cosmic telephone, to a baseball game.

"Now I know you're crazy for sure," harrumphed St. Peter. "Up here we have practically all the .350 hitters and 20-game pitchers who ever lived. People loved them, and they loved people. So they are in Heaven."

"Ya-ah," screeched the Devil nastily. "What's that gonna get you? Down here I have most of the umpires!"

Kids Have the Last Word

Manager Eddie Stanky announced in advance that a $5 fine would be assessed for every extra pound above "playing weight" carried by his hearties into Spring Training camp.

Second-string hurler arrived with his wife and small son. They were interviewed by the press.

"When you get as big as your Daddy what will you do?"

"Diet," quoth the kid.

Tongue-In-Cheek

Nobody, not even Lippy Leo Durocher, gets into more arguments with umpires than Jimmy Dykes. Quoting rotund manager Dykes:

"Sure, I believe American gratulated in the dugout. League umpires are honest. But my greatest ambition is to hear an umpire say, 'Jimmy, you were right this time.' "

Two girls' softball teams, representing competing breweries, met in the finals of a city league tournament.

To advertise their products managers rolled out conspicuously labeled barrels of brew.

The gals were invited to help themselves. And in every inning after No. 3 the bags were loaded.

"Stories of the Week"

In Handy Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

Here's why: this book of good stories *you* can tell is printed on thin paper, bound in flexible leatherette, and *designed to fit neatly into your inside coat pocket.*

While waiting in an ante-room to see Mr. Bigdome, the sales representative can thumb through it and pick out four or five pertinent jokes which are guaranteed to put his prospect in a good mood.

The man about to make a speech—or one who figures he may be asked to rise and shine extemporaneously—can consult it surreptitiously while the toastmaster is doing his stuff. Although it's jam-packed with grand tales, it isn't bulky. Rather, it's unobtrusive. Looks more like a leather wallet than a book.

You can be the life of the party if you've memorized some of the anecdotes in this book. Everybody loves a good story well told—and all the jokes in this book have been tested on tough audiences, both large and intimate, by the author.

Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated gift anytime.

PRICE: $1.00

(Write for quantity discounts on 5 or more copies.)

Order directly from: *Business News Publishing Co., 450 West Fort St., Detroit 26, Mich.*

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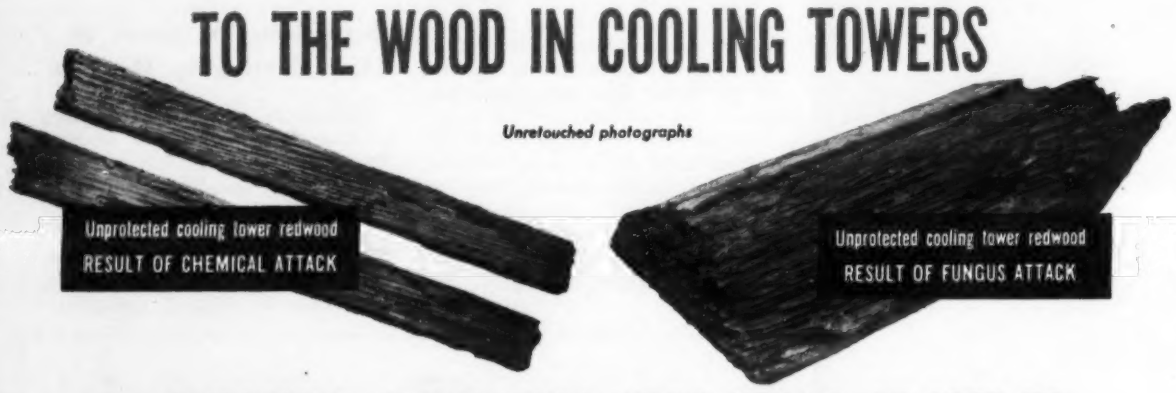
4-26-54

LOOK WHAT CAN HAPPEN TO THE WOOD IN COOLING TOWERS

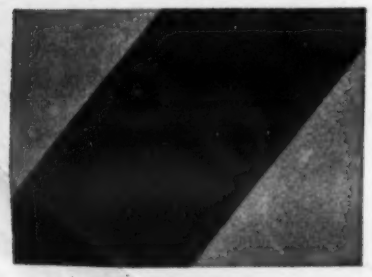


PRESSURE CREOSOTING ADDS YEARS OF LIFE TO HALSTEAD & MITCHELL COOLING TOWERS

FUNGUS ROTTED UNPROTECTED DECKING

Unretouched photographs

CLEAN PRESSURE-CREOSOTED DECKING



Examine these unretouched photographs carefully. Constantly wetted wood decking in a cooling tower is subject to immediate attack by fungus and marine parasites. It is also subject to chemical deterioration from acids in water. All wood used in Halstead & Mitchell Cooling Towers is protected against these twin enemies.

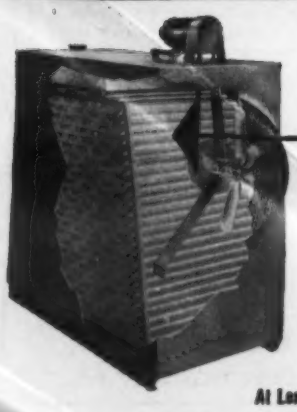
WHY PRESSURE CREOSOTING?

Creosote . . . *with 162 elements toxic to fungus growth and parasites* . . . also makes wood more resistant to chemical attack. Deep penetration of the wood by Koppers Pressure-Creosoting gives the longest possible wetted decking life. Therefore, all Halstead & Mitchell Cooling Tower decks are Pressure-Creosoted, and are guaranteed against rotting due to fungus growth . . . for 20 years!

ONLY HALSTEAD & MITCHELL OFFERS THE

20-Year Guarantee!

ON THE WETTED DECK SURFACE against rotting by fungus attack



2 thru 100 Tons

Sheet-Steel Cabinets, 5-times protected
Stainless Steel Fans and Shafts
Weather Shielding
Everdur Bolts for ease of disassembly at any time.

HM Halstead & Mitchell

At Leading Refrigeration & Heating Wholesalers Everywhere

OFFICES: Bessemer Bldg., Pittsburgh 22, Pa.

IDEAL Speed-Freeze PRODUCTS

BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS. (With Refrigerated Faucets)

WRITE IDEAL COOLER CORPORATION
2953 EASTON AVE. • ST. LOUIS 6, MO.

Commercial Refrigeration

SMI Sets Program for Cleveland Meeting May 23

CLEVELAND—Program for its 17th annual convention to be held at Public Auditorium here May 23 through 26 has been announced by the Super Market Institute.

Largest show in the group's history will open at 1 p.m. Sunday, May 23 and close at 6 p.m. Show hours for the remaining three days will be from 2 to 6 p.m.

First day's schedule calls for a welcome brunch at 11:30 a.m. Sunday, and at 7 p.m. the president's reception followed by dinner and entertainment.

On each of the following three days there will be breakfast at 8 a.m., luncheon at 12:45, and dinner at 6:30 p.m., all at the Auditorium.

Business sessions start at 9 a.m. Monday, Tuesday, and Wednesday. Monday's session will be built around the theme, "How to Build a Distinctive Selling Personality in Your Stores"; Tuesday's, "How to Build a Distinctive Selling Personality in Your Employes"; Wednesday's, "How to Build a Distinctive Selling Personality in Your Advertising."

Individual consultation with the mornings speakers has been scheduled for 2:30 to 4 each afternoon.

Plan Commercial Kitchen Wiring In Advance—NEMA

NEW YORK CITY—The time to assure adequate wiring for commercial cooking equipment is at the planning stage, before the plans are drawn and before the kitchen is built or remodeled, declares the commercial cooking equipment section of the National Electrical Manufacturers Association.

In a new booklet called "Adequate Wiring for Complete Commercial Electric Kitchens," the section adds that at the same time adequate 20-ampere appliance outlets should be planned for to take care of refrigerators, lighting, ice cream cabinets, cold tables, and the like.

Outlets should be provided, too, for cleaning operations and food preparation machines.

The booklet explains how to figure wiring requirements, and outlines the benefits of an all-electric commercial kitchen operation. It includes the complete plan of a typical all-electric commercial kitchen accompanied by a wiring diagram showing electric connections.

Also included are the minimum wattages required for various makes and models of commercial electric cooking equipment and a wiring capacity table. This table is a guide for determining the sizes of circuit wires, switch and fuse sizes, and circuit breaker sizes for individual cooking appliances. It can also be used for calculating feeders to serve batteries of cooking appliances.

Copies of the folder are available free from NEMA.

Brown Elected President Of Las Vegas Contractors

LAS VEGAS, Nev.—Francis G. Brown has been elected president of the newly formed Refrigeration and Air Conditioning Contractors Association of Las Vegas.

Other officers are Ned Beardon, vice president; Ralph Jefferson, secretary; Merrill Hammond, treasurer; and Dave Sheffield, sergeant-at-arms.

The group has applied for membership in the national Refrigeration and Air Conditioning Contractors Association.

Leases Buffalo Building

BUFFALO—The State Insulating Co. has leased a building at 1055 Main St. for offices and salesrooms for the marketing of air conditioning and insulating products.

2-Section Cooler Helps Preserve Chinchilla Pelts

SALT LAKE CITY—To help solve its fur storage problem, the National Chinchilla Breeders of America here recently installed a two-section cooler, each section holding separate temperatures.

The Brunner refrigeration unit and Drayer-Hanson "Spasaver" coil were provided by the Commercial Distributing Co. here and the installation and erection of the cooler was accomplished by the Moore Butcher Supply Co.

The two-section construction was essential, it was pointed out, in order to provide a small "quarantine" freezing unit so that new fur shipments would not introduce moths or larvae into other pelts already stored in the larger cooler.

The small unit maintains 0° to 5° F. temperatures, which, tests prove, will kill insect eggs in approximately two days. The larger cooler is maintained at 40° F.

Chinchilla breeders, it was also pointed out, have found it helpful to place freshly killed animals into a freezer for about an hour before skinning to insure a cleaner, more even removal of the pelt.

Customers Like 'Em Lively

Walk-In Furnishes Right Atmosphere To Keep Fresh Lobsters at Peak Condition

BUFFALO — A specially constructed rack of trays in the walk-in cooler of Noel's Supermarket here is helping this store do an excellent business in live lobsters.

The store sells an average of 300 lbs. of live lobsters a week and in some top weeks has hit as high as 600 lbs. Proper refrigeration is an essential part of the merchandising program, said Noel Ghosn, owner of the store.

Ghosn formerly displayed the lobsters on a large table on the selling floor of the store. But without proper refrigeration and temperature control, they soon lost their liveliness and were not too attractive to shoppers.

So he developed a rack of trays which he installed in his walk-in cooler. The lobsters are kept in real sea grass in these trays, made of perforated metal, thus admitting plenty of air.

Ghosn reports that the lobsters remain "very lively and active" in this natural habitat and are much more saleable. "Customers shopping for live lobsters want them just that way—lively," he commented. "Listless, half-dead lobsters don't appeal to them."

A sign above the special order window in the store's meat department directs customers to the spot where they order their lobsters. The attendant takes an order at this window, then secures a lobster from the walk-in cooler nearby.

Ghosn emphasizes that lobsters must be sold quickly and reordered frequently. He gets fresh shipments by Railway Express from both Portland and Boston.

He sells them to customers who come from all parts of the city and finds they are an excellent traffic builder for the store. Noel's Supermarket features lobsters as a lead item regularly in weekly newspaper advertising.

Ghosn finds there is a steady market for live lobsters, properly refrigerated, and offered at an attractive price.

easy to handle in hard-to-reach spots

ALCO 402 THERMO VALVES
THE SMALL-FIXTURE VALVES

You install them in any position—upright, sideways, upside down.

They're small and compact—fit in your hand.

You save work and time!

Built-in pressure limiting device prevents motor burn-out.

Freon-12—¼, ½ and 1 Ton
Freon-22—.4, .8 and 1.6 Tons
Methyl Chloride —½, 1 and 2 Tons

ALCO 402 — ENGINEERED FOR SERVICE ENGINEERS

ASK YOUR ALCO WHOLESALER

ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

6030

CURTIS REFRIGERATION
AIR CONDITIONING COMMERCIAL
For All Your Refrigeration and Air Conditioning Requirements
Curtis Refrigerating Machine Division
of Curtis Manufacturing Company R-528
1912 Kienlen Ave. St. Louis 20, Mo.
Established 1854

KOLD-DRAFT "Pebbletone" beverage cooler.

Beverage Coolers Use Convection, Conduction

ERIE, Pa.—A new line of "Kold-Draft Pebbletone" beverage coolers that cool by convection and conduction rather than by forced air have been introduced by the Uniflow Mfg. Co. here.

The line includes four sizes of coolers with either self contained or remote refrigeration units. All are 39 in. high and 29½ in. deep.

The model PT13 is 31¼ in. long and has a capacity of 13 cases, 12 bottles. The PT27 is 56 in. long and holds 27 cases; PT40 is 80¾ in. long, holding 40 cases, 12 bottles; and the PT54 is 105 in. long and holds 54 cases. All capacities are measured in export size bottles.

Kold-Draft's continuous cooling coil design permits handy brand separation and fast independent cooling, the company said. Warm bottles placed in one section do not affect those in any other section. Bottles are stacked neck-to-neck for easy pick-up.

Surprise Party Honors Caum's 20 Yrs. In Field

ALTOONA, Pa. — Thomas L. Caum, whose engineering company helped pioneer commercial refrigeration and air conditioning in the Altoona area during the past 20 years, was given a surprise party by the firm's employes.

Caum, son of the founder of the former Caum Ice Cream Co., started working with refrigeration at the Caum plant in 1920.

On April 3, 1934, he signed a contract with Ezra Frick, son of the founder of the Frick Co., Waynesboro, and with an old truck and a few tools started selling and repairing Frick refrigeration equipment from one room at the former Caum ice cream plant at Fifth Ave. and Ninth St.

In 1944 the business was moved to the present location at 2513 Sixth Ave. and the first frozen food locker plant in central Pennsylvania was opened in August of that year. There are 601 individual food lockers in the basement of the building with complete facilities for processing and freezing meat, fruits, and vegetables.

Caum installed the first air conditioning in Altoona in the former cocktail lounge of the Penn-Alto hotel. He also designed and installed refrigeration for a rail test car for the Pennsylvania railroad in collaboration with the local test department.

He installed the refrigeration for the constant temperature room in the mechanical engineering department of the Pennsylvania State university, which is used for test purposes.

Caum has engineered, installed, and serviced refrigeration systems for dairies, bakeries, packing houses, food stores, and freezing plants, as well as designed and installed air conditioning for homes and stores.

Carrier Public Relations Names Ruffner Field Mgr.

SYRACUSE, N. Y. — Joseph Ruffner has been named field publicity manager for Carrier Corp., it was announced by John K. Barnes, director of public relations.

Joseph Ruffner

Prior to coming with Carrier, Ruffner was with Selvage, Lee & Chase, Carrier's public relations counsel.

He was formerly with the public relations departments of Lever Brothers Co. and The Borden Co. Before entering the public relations field, Ruffner was a chief of the bureau for International News Service in Manila, Philippines, and is a former staff member of the New York *Daily News,* National Broadcasting Co., the Salt Lake *Tribune,* and the Pocatello (Idaho) *Tribune.*

Unilectric To Be New Name Of United Mfg. & Service

MILWAUKEE—Unilectric, Inc. is the new corporate name which has just been adopted by the board of directors of United Mfg. & Service Co. here, it was announced by Halbert W. Hoard, president.

The registered trade-mark, "Unilectric," has become widely known throughout the electrical industry in connection with the products manufactured by this company, according to Hoard. The change of name is intended to identify the trade-mark with the corporate name.

Hoard has also announced changes in the executive personnel of the company. New additions to the executive staff include: Ralph S. Evinrude, vice president (inactive); Ira M. Jones, secretary; Anthony G. Neuser, comptroller and assistant secretary; and Charles E. Rattray, general works manager.

Thomas A. Vallee continues as vice president in charge of sales and other operations under the general supervision of Hoard. B. Hoard continues as treasurer.

Since 1942, Unilectric has specialized in the engineering and manufacture of Unilectric product wiring systems for all types of electric and electronic products.

In addition, the company has developed and patented many specialized wiring components for use with Unilectric Wiring Systems, including a number of types of junction blocks and appliance lamp holders or sockets.

"During the last 11 years," the company said, "Unilectric has grown from a company with a first-year volume of $72,000 to a top position in the product wiring industry.

"When Unilectric was founded as United Mfg. & Service Co., the great majority of appliance and electrical equipment manufacturers produced their own product wiring by one means or another. Today the majority buy the wiring for their products in the prefabricated form and Unilectric has been a pioneer in this field.

Orchids to the Ladies

WILKES-BARRE, Pa.—City Appliance & Television Co. has been opened at 370 Pierce St., Kingston.

The first 200 women visiting the new store received free orchids and a free glass container set was given with every purchase of $50 or more.

NEMA Refrigerator Sales By Distributors By States

SALES OF ELECTRIC HOUSEHOLD REFRIGERATORS BY DISTRIBUTORS TO DEALERS—BY STATES

Summary for Year 1953

Reports were received from 15 companies.

States	Units
Alabama	46,610
Arizona	15,806
Arkansas	32,139
California	230,096
Colorado	24,108
Connecticut	41,961
Delaware	7,274
District of Columbia	40,198
Florida	94,453
Georgia	64,567
Idaho	6,066
Illinois	159,747
Indiana	82,521
Iowa	37,087
Kansas	24,573
Kentucky	45,820
Louisiana	51,637
Maine	12,838
Maryland	42,773
Massachusetts	76,547
Michigan	138,945
Minnesota	41,419
Mississippi	35,920
Missouri	89,313
Montana	8,034
Nebraska	21,469
Nevada	5,741
New Hampshire	8,316
New Jersey	106,169
New Mexico	9,357
New York	344,715
North Carolina	65,998
North Dakota	8,769
Ohio	167,694
Oklahoma	36,086
Oregon	23,245
Pennsylvania	189,573
Rhode Island	23,476
South Carolina	33,295
South Dakota	8,665
Tennessee	66,965
Texas	141,450
Utah	10,774
Vermont	4,536
Virginia	52,311
Washington	32,637
West Virginia	34,453
Wisconsin	47,052
Wyoming	3,402
Total United States	**2,896,600**

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Cooler-ator Co., The, a Div. of International Tel. & Tel. Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co.; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Servel, Inc. (In 3-1-53); Westinghouse Electric Corp.

To Distribute Deepfreeze Refrigerators, Freezers

ATLANTA — Georgia Appliance Co., Inc. here has been appointed distributor of Deepfreeze freezers and refrigerators for Georgia, according to Walter Trippe, president.

"This rounds out the company's products for distribution," Trippe stated. He pointed out that the firm for the past few years has been an independent distributor of nationally-known appliances, both gas and electric.

NEW

ALL POSITION
SHADED POLE
MARCO MOTOR

Large porous bronze bearings.
Bearing retainer plate for accurate positioning and alignment.
Stator insulated with Mylar for longer life.
Resilient washer dampens noise.
Thrust washer combines the amazing wear resistant quality of nylon plus the lubricating quality of graphite to give years of smooth, trouble free service for both vertical and horizontal motor operation.
VERTICAL
INCLINED
HORIZONTAL
Coils wound from one continuous length of wire reduce field failures.
Coil spring maintains positive bearing alignment.
Re-circulating channels return fugitive oil from shaft back to reservoir.
Oil slinger returns lubricant to felts.

POWER SUPPLY EXACTLY WHERE YOU NEED IT

This motor can be mounted in a vertical, horizontal or inclined position because of the new bearing design which provides for the additional thrust and a positive oil retention.

When the motor is operated in a vertical position the specially constructed lubricating system prevents loss of oil along the shaft.

A special nylon thrust surface provides freedom from wear and oil oxidation regardless of the positioning of the motor.

All steel parts are treated before finishing to prevent corrosion. All external parts are finished with attractive Ferrand Gray baked enamel to provide longer life under corrosive conditions.

The above features give you much greater freedom in the design of new equipment requiring a shaded pole motor power supply.

Investigate now — see how Marco engineering saves you production time — assures high quality performance and a wider range of profitable products. Send full information on your product today for specifications of a Marco Motor to fit your requirements.

Quality Motors "tailored" to your product at ready-made prices.

MARCO INDUSTRIES, Inc.

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NEW

Remington

Room Air Conditioners give you

BIG SALES FEATURES

Look over the new Remington line. It's filled with features—SALES features. There's not a lazy one in the lot.

Tropic-Tested. Airflo Fresh'ner. Climate Compensator. "In-or-Out" Design. Positive Ventilation. Variable Velocity Grilles. *Plus* New Automatic Temperature Control—Electric Heating—two optional, extra sell up features to reach a bigger market, with higher unit profit.

From the ⅓ h.p. window unit to the 1½ h.p. console—9 handsome models in all—you cover the entire prospect list with Remington.

What's more, Remington backs you with national ads, and a complete promotion program designed for the problems of your market. Get your share of the profits with Remington's "Profits Guaranteed" franchise.

Don't wait. Write now to:

HEALTH and COMFORT Remington AIR CONDITIONING ... by the roomful

DIVISION OF REMINGTON CORPORATION 11-12 Willey St., Auburn, N. Y.

MORE COILS are made by KRAMER than by any .... other coil manufacturer

York Increases Common Stock for New Financing

YORK, Pa.—The common stockholders of York Corp., in a special meeting recently, approved a proposed amendment to the certificate of incorporation increasing the authorized common stock from 1,500,000 to 2,500,000 shares.

With this stockholder approval, the corporation proposes to issue and sell approximately 220,000 additional shares of common stock and $18,000,000 principal amount of debentures in a financing program estimated to yield proceeds of about $23,000,000 less expenses.

These proceeds will be used to provide for extensions, improvements, and betterments to the plant and equipment of the corporation in an amount estimated at approximately $10,500,000; to retire a portion (as yet undetermined) of the indebtedness of the corporation; and for additional working capital and other general corporate purposes.

The corporation is in negotiation with The First Boston Corp. and Kidder, Peabody & Co. for the distribution of the securities.

Starke Joins Remington as Rep. In Mountain States

AUBURN, N. Y.—Appointment of R. C. Starke as a district representative for Remington Corp. in the mountain states has been announced here by M. L. Judd, general sales manager.

Starke will represent Remington room air conditioners in Colorado, Utah, and New Mexico, with headquarters in Denver. He is widely known in Denver as a manufacturers' representative specializing in cooling equipment.

Remington Offers Color Film As Part of Dealer Sales Training Program

AUBURN, N. Y. — As part of their dealer sales training program, Remington Corp. has made available to its distributors two full color strip films with accompanying sound on record, C. Kenneth Juno, advertising manager, announced recently.

Film strip number one describes the benefits of year-round air conditioning and tells the dealer how to sell these benefits in terms easily understood by the average householder, it was explained.

The second film points out the sales features of Remington window and console room air conditioners, explains why these features are important, and suggests how the dealer may merchandise them.

Juno pointed out that competition for room air conditioner sales will hit a new high this year. That's why the dealer who knows how to sell all other benefits of air conditioning in addition to cooling, and is thoroughly familiar with his product, will enjoy a strong advantage, he declared.

Remington's plan, Juno said, is to train its dealers thoroughly on its products and the features which have been built into each unit. "They will know a great deal more about our units than just the capacity, price, and appearance," he added.

Wade Opens Branch

HOUSTON, Texas—Wade Electric Co., featuring air conditioners and other merchandise, held grand opening at its new branch at 1233 Waugh Dr. here recently.

Frigidaire Launches Biggest Room Cooler Promotion, 12-Week Concentration Planned

DAYTON — The biggest and most concentrated room air conditioner advertising and promotion campaign in Frigidaire history got under way recently.

"Our advertising on window units will be double last year's, most of it concentrated during the next 12 weeks," explained H. F. Lehman, general sales manager.

With increased manufacturing facilities, Frigidaire is in a position to double its production of room air conditioners this year, he said.

Factory sales personnel are at present meeting with district organization sales managers throughout the country in a series of conferences planning intensified promotion activity for the forthcoming peak selling season.

Lehman pointed out that the window unit advertising would be divided between daily newspapers, national magazines, radio, and television.

Advertising is built around the theme that "you can save up to half your cooling cost with a Frigidaire Thrifty-Twin room conditioner." This is a reference to the models which have two complete refrigeration systems, only one of which needs to operate on moderately hot days and at night.

Insco Williams, air conditioning advertising manager, explained that while advertisements in recent years have emphasized the comfort factor of air conditioning, Frigidaire believes this feature has reasonable public acceptance.

"Today's customer is not just buying cooling," Williams said. "He is becoming more discriminating, investigating features, economy, and product dependability."

3 Air Conditioning Firms Incorporate In Texas

AUSTIN, Texas—Three air conditioning organizations have recently been incorporated, records in the Secretary of State's office show here.

Fort Worth Air Conditioning Association was incorporated by W. I. Spitler, B. P. Rhinefort, and H. E. Cunningham in Fort Worth.

Duncan Heating and Air Conditioning, Inc. of El Paso listed its capital stock as $10,000 by the incorporators, Stanley Duncan, Abner S. Lipscomb, and W. C. Peticolas.

Another El Paso firm, H and H Cooling and Heating Co., was incorporated by Bernice C. Halbert, Jimmy E. Hardy, and George A. McAlmon, Jr., who listed the capital stock at $6,000.

City Inspectors Worried About 'Plug-In' Coolers

DETROIT—Overloaded circuits aggravated by room air conditioners being plugged into ordinary wall sockets are becoming so serious, declared H. B. Love, chief electrical inspector for the city of Detroit, that some inspection departments in other cities are considering special legislation aimed at room coolers.

Love issued his warning against selling room coolers on a "plug-in" basis at a recent meeting of the Detroit chapter of the Refrigeration Service Engineers Society.

Room coolers are becoming so popular, he noted, that people are not just installing a single unit in their home or office, but are installing several units.

He warned against putting too much faith in the ampere rating on the name plate in determining whether or not the line will take the load. Starting loads are heavier than the rating on the name plate —even as much as 50% greater.

This is particularly bad, he said, when several units are installed on the same circuit.

Hooven Opens G-E Offices

ATLANTA — Paul M. Hooven, manager of the newly-created southeastern marketing region of General Electric Co.'s Air Conditioning Div., has opened offices here to serve states in the area.

HERE'S WHY ALL REMCO PRODUCTS SELL FASTER—SAVE YOU MONEY

E-Z-SEE LIQUID-FLO-INDICATORS with the exclusive sensitive flap, responsive to changes in flow. E-Z to SEE thru, these indicators now permit the serviceman to analyze accurately functions of the expansion valve by action or position of the flap. Positively leakproof — perfectly safe.

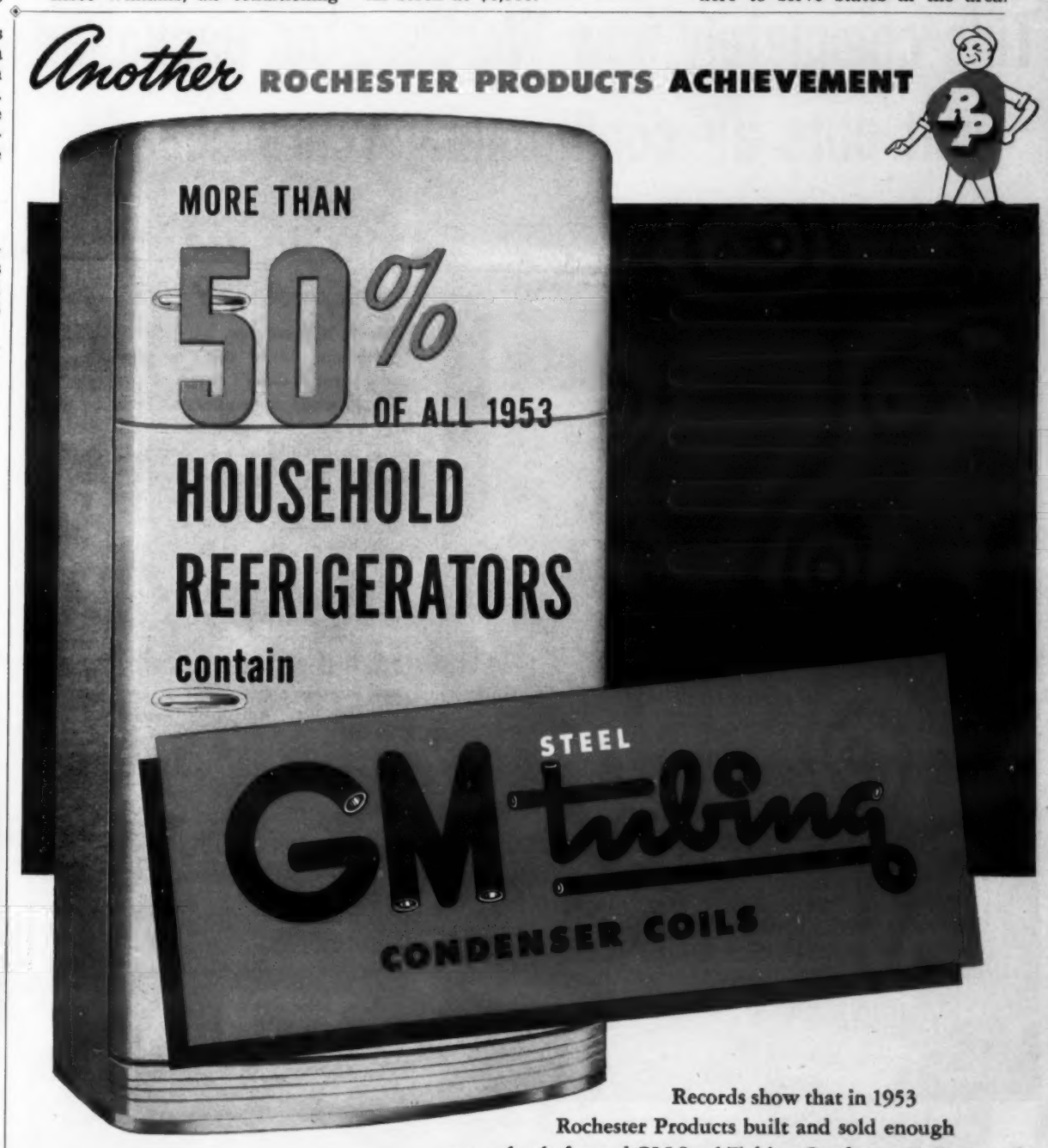
SUPER-FLO FILTER-DRIERS for both original equipment and replacement. Check SUPER-FLO's amazing low price against ordinary driers which do not have massive fiberglas *depth* filters, *molded* drying elements and *spun-end* copper shells. Perfectly free flow. Remco also manufactures famous Cross-Flo and Standard Duty driers.

FROST-TITE FLARE NUTS positively eliminate creeping, cracking or splitting of nuts in refrigeration systems by providing relief for expanding ice through patented forged frost-relief slots. Yet they cost no more than unrelieved flare nuts.

Available to the trade through wholesalers everywhere.

REMCO
INCORPORATED
ZELIENOPLE, PENNSYLVANIA

Another ROCHESTER PRODUCTS ACHIEVEMENT



Records show that in 1953
Rochester Products built and sold enough
completely formed GM Steel Tubing Condenser Coils to equip
MORE THAN HALF of all the household refrigerators
that were sold in the U.S.A. during that year.
Here is evidence that GM steel Tubing is helping
more and more refrigeration manufacturers to build
better products, faster, for less money.
Why not let us do the same for *you!*

SEND FOR *FREE* BROCHURE
This new, illustrated, fact-packed brochure tells how GM Steel Tubing can help solve design and production problems. Send today for your free copy.

SEE SWEET'S PRODUCT DESIGN FILE 1a/Ro

RP STEEL TUBING

ROCHESTER PRODUCTS DIVISION OF GENERAL MOTORS
ROCHESTER, N. Y., U. S. A.
ALSO MANUFACTURERS OF ROCHESTER CARBURETORS AND ROCHESTER CIGAR LIGHTERS

Air Conditioning & Refrigeration News

Trade Mark registered U. S. Patent Office: Est. 1926.

F. M. COCKRELL, *Founder*

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APRIL 26, 1954

Quick-Frozen Orange Juice: A Lesson In Economics

HAVING grown up in a small town, whose merchants depended entirely on "the farm trade," this politically-conservative editorial writer probably is unusually responsive and sensitive to the problems of food producers.

Theirs is a hazardous life. And until the "parity" formula came along, farmers normally didn't do too well economically. They weren't unionized, and WEATHER hurt them too often. Floods, droughts, etc., bankrupted assiduous farmers.

Nevertheless, like any sane consumer, we find a trait of insanity in the scheme which forces food-consumers to:

(1) Pay artificially high prices for what they eat;

(2) Be taxed to support those excessive prices; and

(3) Sit back helplessly while Their Government buys up ever-mounting surplusses of farm produce (which we can't afford to consume), and stores these unbuyables until they rot.

Right now a flagrant case-in-point is butter.

Our Government buys up all the too-high-priced-for-most-people butter, and cold storages it until tons of it becomes rancid.

We who eat foot the bill for this silly sort of thing through our personal income taxes.

In the meantime a butter substitute, oleomargarine, *which isn't price-supported,* is capturing the market for bread-spreads.

Eventually, we predict, consumers who used to spurn that substitute (oleomargarine) will *prefer* it, because they will have become accustomed to it. And then the dairies and the cow-milking farmers won't be able to sell butter at *any* price.

Who's looney now? Who wants governmental price-supports so much that he kisses off those markets forever?

They'll Do It Every Time . . . . . Jimmy Hatlo

WHEN ANGINA, IN THE BOOKKEEPING DEPT, RAN OUT OF A CERTAIN PRINTED FORM···HEELIUM, THE BOSS, RANTED THUSLY···
WHAT DO YOU MEAN, "ALL OUT"? YOU'RE SUPPOSED TO KEEP THE STOCK UP TO DATE! WELL, ORDER 'EM! RIGHT NOW! RUSH! UNDERSTAND?!!
JIMMY HATLO
THANX AND A TIP OF THE HATLO HAT TO MRS. ALMA FREDERICKS, 1585 DECATUR BLVD. VILLE ST. LAURENT, MONTREAL, QUE., CAN.
SO, JUST TO BE ON THE SAFE SIDE, ANGIE ORDERS TEN OR TWENTY THOUSAND OF THEM···AND THEN···
OH, MISS POTHOOKS—ABOUT THIS PROFIT-AND-LOSS FORM 204-A···WE'RE DISCONTINUING IT···WE'LL USE THE BACKS OF OUR OLD LEDGER SHEETS··· ECONOMY, Y'KNOW···
COPR. 1953, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED.

From a fringe of the refrigeration business we can cite an opposite case-history.

Three years ago canned frozen orange juice glutted the market. Producers weren't politically powerful enough (nearly all were in Florida) to demand and receive price supports from Congress.

Result: To get out from under their inventory burden, they slashed prices drastically. Those orange-juice producers were unhappy then; but they recouped their losses soon.

Not only did they liquidate their excessive stocks. Their cut prices opened up vast new markets for frozen orange-juice concentrates!

And the long-term outlook is great for more orange juice.

Continental Can Co. has counted the young trees that will begin to bear in the next three years, and it predicts a crop of 104-million boxes of Florida oranges by 1956-57.

That increase is destined to be absorbed by the concentrators, just as they have taken up the entire increase in Florida's orange crop since the war.

The demand curve for frozen orange juice should be a classical economist's delight. It's about as elastic as demand can get.

Lower the price and consumption spurts; raise the price and consumption drops.

Right now, frozen orange juice retails at an all-time low: A nationwide average of 14.1 cents per 6-oz can. And consumption has risen from a weekly average of 931,000 gallons in December to an all-time high of more than 1.3 million gallons. That's at an annual rate of 70 million gallons, compared with last year's actual consumption of 50 million gallons.

Today the demand for quick-frozen morning bracers is climbing steadily. Producers are selling all they can supply at a satisfactory profit; and their future outlook is mighty bright.

Perhaps there's a lesson there for the dairy people.

And for us taxpayers and consumers.

Adam Smith's "Law of Supply and Demand" hasn't been popular for the last 25 years or so.

But it still works. Ask any grocer.

This completely new Worthington packaged unit puts air conditioning years ahead!

NEW! SIMPLE, MODERN LINES that look good anywhere.

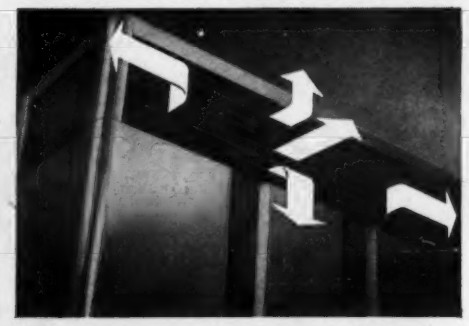
NEW! CARE-FREE PERFORMANCE. Customers will like the way a turn of the dial gives the amount and kind of cooling desired. And if temporary power or water failure interrupts service, a twist of a knob restarts unit — with no service call needed.

Easy to use, easy to sell!

Here's a brand-new, handsomely styled air conditioning "plant" that's as easy to operate and control as today's electrical refrigerator.

Every single component has been restudied, in many cases redesigned, and the complete unit tested repeatedly under conditions harsher than it could ever meet in actual service. The result? A quiet, smooth-running packaged unit that will make your Worthington franchise more profitable than ever before. There are sizes for every business, office, or store need. Worthington Corporation, Air Conditioning and Refrigeration Division, Harrison, N.J.

Look at these new sales-making features!



NEW! 3-DIMENSIONAL CIRCULATION. Louvers are easily adjusted to send cool, dehumidified air up, down, to either side or straight ahead. No drafts, no waste circulation.

A-1-47

WORTHINGTON

CLIMATE ENGINEERS TO INDUSTRY, BUSINESS AND THE HOME

OFF THE CHEST

Pleasant Ridge, Mich.

Editor:

Your editorial in the March 29 issue of the NEWS is nothing short of astounding.

On the theory that room air conditioners are going to rust in half and fall down on someone's head, you go all out for porcelain enamel window air conditioners.

As a former consultant to Lustron Corp., manufacturer of porcelain enamel homes, I am familiar with the many splendid qualities of this material. These qualities are well known to everyone in the appliance industry.

You admit that "production-wise it (porcelain enameling) might be difficult and expensive to adopt"—which is the understatement of year. From my personal knowledge, *most* air conditioning equipment of every type now depends on some type of rustproofing.

You have gone off the deep end, before looking to see if there was any water in the pool. Perhaps you just wanted to start an argument. If so, you did.

WM. HENRY KNOWLTON

Pflepsen Refrigeration
St. Cloud, Minn.

Editor:

I hope it will be possible to publish this in the next edition.

REFRIGERATION SERVICE MEN, CONTRACTORS OR ANYONE IN THE TRADE.

Follow that long awaited article in the NEWS pertaining to the Federal Trade Commission hearings, so that the ice cream companies can be stopped from giving away equipment. Let's all get behind the F.T.C. with letters, wires, telephone calls, or what have you. Make our business a good business.

ROBERT J. PFLEPSEN

Carrier Corp.
Syracuse 1, N. Y.

Editor:

Congratulations on your typographical change. It looks extremely good.

I particularly like the new page make-up. A glance at the page guides you quickly to the stories of particular interest. It's a good piece of work.

CURTIS B. BARNARD,
Product Publicity Manager

Load Calculations—2

Air Force Conference Gets Detailed Review of Load Estimating For Typical Synthetic Flight Trainer Building

Editor's Note: This is the second in a series of articles presenting the papers given at the recent Refrigeration & Air Conditioning Engineers' Conference held by Headquarters, United States Air Force, at the Pentagon in Washington, D. C.

As arranged by Conference Director Wm. T. Smith of the U.S.A.F. Directorate of Installations, four industry representatives performed and explained the engineering and installation (on paper) of cooling equipment for a typical Air Force structure—a synthetic flight trainer building.

Following is the second instalment of the first of four papers given on the subject.

By James H. Carpenter, Director, Engineering Training Department, Carrier Corp.

The next item which appears on the estimating form is ventilation.

Data for determining the necessary ventilation rate to dilute smoke and odors to acceptable limits for given applications are listed in several sources such as the ASHVE Guide and the Heating, Piping, and Air Conditioning Contractors standard.

These cover a variety of commercial and public type buildings. Ventilation requirements vary from a minimum of 5 c.f.m. per person for theaters and department stores to 50 c.f.m. for meeting and board rooms and 100% outside air for hospital operating rooms.

The AFR 91-8 regulation makes recommendations for your particular applications. These are shown in Table 4 and correspond very closely to the values used by the Guide and similar standards. Ventilation requirements for industrial or process type applications are usually established by the end user of the system.

The Guide recommends the calculation of crack infiltration at doors and windows by the same method as established for winter infiltration. However, wind velocities in summer are normally less than in winter. It is recommended that the average summer wind velocity in your area be used for infiltration calculations.

The infiltration load must be included in addition to outside air ventilation whenever the outside air introduced to the space through the apparatus is not sufficient to offset infiltration.

Whenever economically feasible, it is desirable to introduce sufficient outdoor air through the equipment to maintain a constant outward escape of air from the structure to eliminate the infiltration portion of the load. Several advantages result: cleaner spaces, air through the apparatus is filtered, load is absorbed at coil rather than in room, smaller ducts required, etc.

Infiltrated air should never be counted upon for providing ventilation, for on still days there will be little or no infiltration and odors will result.

When the outside air quantity is not sufficient to offset infiltration completely, the entire infiltration load should be included in the cooling load calculations in addition to the ventilation load.

Table 4—Ventilation Standards

Buildings and Areas	C.f.m. per Person Recommended	Minimum
Auditoriums, Theaters, Chapels	7½	5
Classrooms, General Offices, Recreation Rooms, Clinics, Control Centers	15	10
Hospital Wards	20	15
Heavy Smoking Areas	30	....
Operating Rooms	100%	....

INTERNAL HEAT GAINS

In many applications, both for occupants and process, the internal heat gains account for more than 50% of the total load on the system. Primary sources of internal load are people, horsepower, light, and appliances, and we will discuss them in that order.

The heat gain from people for various degrees of activity, together with a division between sensible and latent heat, is shown in Table 5.

The total heat for adult males

(Continued on next page)

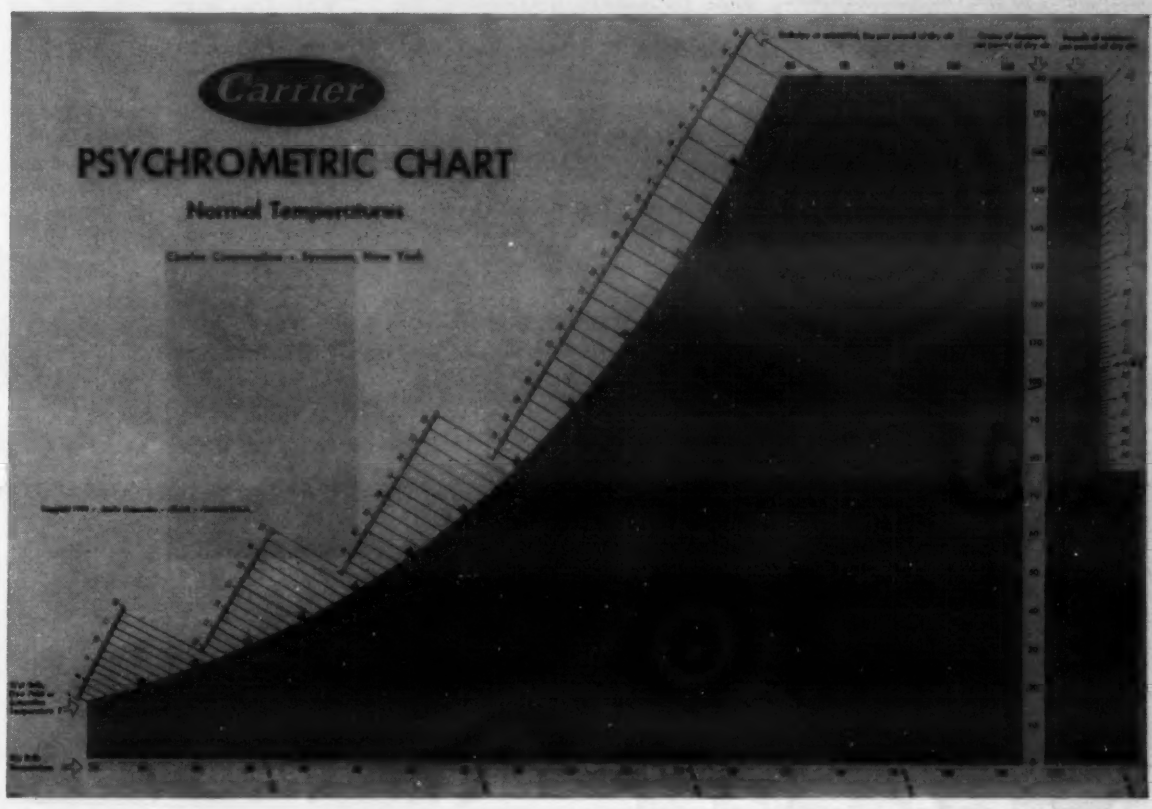


FIG. 6—Psychrometric chart shows humidity requirements of air necessary to absorb latent load in synthetic trainer building.

MORE COILS
ARE MADE BY
KRAMER
THAN BY ANY OTHER
COIL MANUFACTURER
KRAMER TRENTON CO. • Trenton 5, N.J.

Internal Heat Gains Vital to Success--

(Continued from preceding page)

in B.t.u. per hour is based on an average weight of 150 lbs. "Total heat adjusted" is based on normal percentages of men, women, and children for a given application.

All values in Table 5 are based on an 80° d.b. room. For a 78° d.b. room the sensible heat values should be increased 10% and the latent heat values should be decreased 10%.

Good judgment is required in selecting a degree of activity consistent with our particular application. The trend seems to be toward overestimating the degree of activity.

Heat gained from motors or machinery in the conditioned space is dependent on a number of variables for which the designer must establish reasonable values.

Whenever the motor and driven device are located within a conditioned area all of the input power is dissipated within the space. The exception to this results when liquid, gas, or another product is transferred to another space. Examples include an exhaust hood discharging to atmosphere or a pump transferring liquid to another area.

VALUES ESTABLISHED

Heat gain from motors or machinery is influenced by efficiency, per cent load, and per cent operating time. Values for each of these must be established before an accurate estimate of heat gain from this source may be calculated.

It is important also to establish the actual number of watts of lights in use, coincident with the peak heat gain to the space. Whenever a major portion of the heat gain is due to sunlight gain through glass, it is probable that the installed lighting equipment will be only partially used. This point should be carefully checked during the survey.

When using ordinary incandescent lamps, the heat gain is equal to the number of watts in use times the factor of 3.4 B.t.u. When fluorescent lighting is used, it is necessary to include the watts for the ballast in addition to the rated watts of the lamp. When this information is not readily available, 20% of the lamp rating should be added for the ballast.

Complete data on heat from appliances is contained in the ASHVE Guide and most air conditioning equipment makers data.

APPLIANCES FIGURED

It is important that complete survey data be secured for all appliances in order that accurate values of heat gain may be determined from tabular data. As in the case of motors, the actual hours operating time and the operating level must be determined if an accurate account of the appliance load is to result.

Properly designed exhaust hoods are frequently effective in reducing the load from appliances. Hoods should extend at least 4 in. per foot of height between the face of the hood and the appliance. Average air velocity over the hood face should be not less than 70 f.p.m. Use of hoods meeting these conditions will result in a 50% reduction of the appliance heat to the space.

Since one of the purposes of the cooling estimate is to determine the design load for equipment selection, the designer must determine the time of day when all loads for the space reach a simultaneous maximum.

The most effective method is to examine the variable loads such as sun gain, ventilation air, occupancy, etc. to determine when the maximum load occurs. When this cannot be determined readily by inspection, the designer will normally make estimates for several times of day in order to establish the design load for equipment selection.

The next step is to total up the sensible and latent room loads and add reasonable allowances for heat gain to ducts in non-conditioned areas, leakage loss from ductwork, and heat gain from fan horsepower.

SUPPLY AIR NECESSARY

Having established the room loads, the designer must next determine the amount of supply air necessary. This may be done by assuming an air quantity based on air change rate, or the quantity may be established by assuming a temperature difference between air supply and room temperature. In either case it is necessary to determine the specific humidity of the air, thus providing capacity for the removal of the latent heat load.

The following example will be helpful in illustrating the fundamentals of selecting the proper air quantity which is capable of simultaneously removing design room sensible and latent loads.

It is assumed that room sensible load is 50,000 B.t.u./hour and the latent load is 24,000 B.t.u./hr. If we establish room conditions of 80 d.b. and 50% r.h. and arbitrarily select 55°, 60°, and 65° F. for possible supply air temperatures, then the required air quantity to absorb the 50,000 B.t.u./hr. sensible load may be calculated. Illustrating this, when 55° F. supply air is used:

$$W \text{ lbs.} = \frac{50{,}000}{.24 \times (80-55)} =$$

8,333 lb. per hour.

With the latent heat load of 24,000 B.t.u./hr. the grain equiva-

(Continued on next page)

Table 5—Heat Gain from Occupants.

Degree of Activity	Typical Application	Total Heat Adult Male B.t.u./hr.	Total Heat Adjusted B.t.u./hr.	Sensible Heat B.t.u. per hr.	Latent Heat B.t.u. per hr.
Seated at rest	Theater-Matinee	390	330	180	150
	Theater-Evening	390	350	195	155
Seated, very light work	Offices, Hotels, Apartments	450	400	195	205
Moderately-active office work	Offices, Hotels Apartments	475	450	200	250
Standing, light work; Walking slowly	Dept. Store, Retail Store, 10¢ Store	550	450	200	250
Walking; seated; Standing; walking slowly	Drugstore Bank	550	500	200	300
Sedentary work	Restaurant	490	550	220	330
Light bench work	Factory	800	750	220	530
Moderate dancing	Dance Hall	900	850	245	605
Walking, 3 m.p.h.; Moderately-heavy work	Factory	1,000	1,000	300	700
Bowling	Bowling Alley	1,500	1,450	465	985
Heavy work	Factory				

SHANA-Air

● A Superior Home Air Conditioner

The SHANA-AIR home air conditioner is the answer to the tremendous demand for a superior, completely packaged unit . . . perfected as the result of 30 years of research, technical and practical installation experience by men who have LIVED with home heating and air conditioning!

● A Forceful Sales Producing Program

The SHANA-AIR specialized selling plan tells you how to sell air conditioners with a minimum of expense and effort . . . and a maximum of profit! SHANA-AIR takes the guess work out of selling home air conditioning by providing you with a proven, experienced program . . . adaptable for everyone!

● Priced Below Competition

Imagine! Superior quality . . . and still priced far below competition. You can own the home air conditioning business in your area and show profits you never believed could exist in this field. Remember, home air conditioning is now a year-around business!

75 units were sold in February and March by Enterprise Heat and Power Company—a firm known throughout Chicagoland for over 30 years . . . typical of fast, proven SHANA-AIR sales!

We're looking for *SOUND* Distributors, Jobbers and Representatives interested in building a volume with a substantial, nationally-recognized manufacturer, to meet the growing demand for Complete Home Air Conditioning.

Air Conditioning unit is one of the select 17 modern living
the Commonwealth Edison Company in Chicago in the Electric
10th to July 16th.

How To Figure Supply Air--

(Continued from preceding page)

lent of the load may be determined by this reasoning. Each pound of supply air must have a specific humidity sufficiently depressed below room humidity to absorb the (latent) load upon rising to the room condition, or distance q_L on Fig. 5.

The amount of grain depression required may be determined in the following manner:

$$\frac{24{,}000}{1{,}055} = 22.75 \text{ lb. moisture removed per hour, where 1,055 equals average enthalpy of evaporation.}$$

Then grains per lb. of supply air depression equals (7,000 grains per lb.):

$$\frac{22.75 \times 7{,}000}{8{,}333} = 19$$

Therefore the supply air must be delivered at 55° F. and specific humidity 19 gr. per lb. below the room conditions or 58 gr. per lb. of dry air.

Values in Table 6 for 60° and 65° d.b. were set this way.

If the supply air temperatures (tas) and corresponding grain contents (Was) are plotted on the psychrometric chart (Fig. 6) together with the room condition, it may be noted that these points fall on a straight line. This line if projected will also intersect the saturation curve.

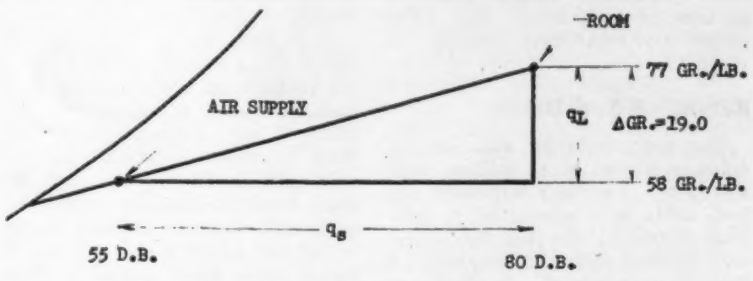


FIG. 5 shows required humidity "depression" of supply air.

It is now apparent that there are an infinite number of conditions along this line any one of which will absorb the room loads simultaneously if supplied in the correct quantity.

This line also shows the ratio of room sensible heat to total room heat. The designer in selecting coils must be sure that the air leaving the coil will coincide with this line.

(To Be Continued)

Table 6

D.b. of Supply Air (tas)	tr-tas	Air Supply lb. per hr.	Wr*-Was	Was
55	25	8,333	19.0	58.0
60	20	10,417	15.3	61.7
65	15	13,888	11.5	65.5

*Room specific humidity at 80 d.b. and 50% r.h. = 77 gr. per lb. dry air.

N.Y. Plumbers Specialties Named UsAirco Distributor

NEW YORK CITY—New York Plumbers Specialties Co., Inc. recently marked its entry into the air conditioning field as a distributor for United States Air Conditioning Corp. package units, with a dinner meeting attended by more than 90 plumbing and heating contractors and members of its sales organization.

Joseph Marin, vice president of New York Plumbers, which maintains 11 offices in the metropolitan area, presided at the meeting. Speakers included William Moiselle, director of field organization for UsAirco; Walter R. Murray, UsAirco sales promotion manager; Frank M. Sturge of Air & Heat Co., New York representative for UsAirco; and Marvin Stein, sales promotion manager of New York Plumbers.

Moiselle outlined the 31-year history of the U. S. Air Conditioning Corp. organization and its role in the development of packaged air conditioning equipment. He emphasized the growth potential of air conditioning for the coming decade and the importance of this market to the plumbing and heating contractor.

Murray detailed the UsAirco advertising and sales promotion program for 1954, the largest ever undertaken by the company. Sturge described the engineering and service facilities which the company will provide in the air conditioning field.

Construction Firm Builds Air Conditioned Plant

PICKENS, S. C.—The Pickens Construction Co. has begun construction of a new plant here. It will cost more than $1,000,000 and will be totally enclosed and completely air conditioned.

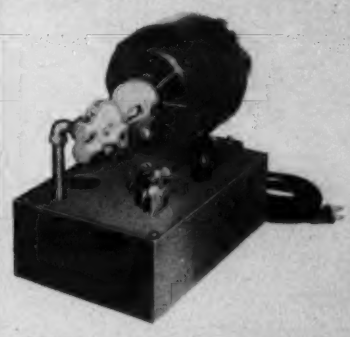
FREE! 55th ANNUAL BURKE & JAMES CAMERA LENS AND EQUIPMENT CATALOGUE

96 Pages crammed with THOUSANDS of Newest PHOTO TOOLS, CAMERAS (Press, Studio, Candid, Special Purpose, etc.), LENSES, PROJECTORS, Lighting Equipment, Developing Equip., Enlargers, etc., for Amateur — Professional in daily Scientific or Industrial work.

Write for Catalog No. 154, Mr. White, Dept. ACRN

BURKE & JAMES, Inc. 321 S. Wabash, Chicago 4, Ill.

eliminate pump-to-drain disposal line with



NEW high-pressure Condensate DISPOSAL UNIT (MODEL CCC)

- ⅓ H.P. MOTOR — pumps against 100 lbs. pressure
- AUTOMATIC OPERATION mercury float switch
- HOT-DIPPED GALVANIZED TANK

No need to run separate disposal line. Water is pumped directly into the condenser water line, through check valve furnished.

$74.50 (F.O.B. Dallas) { to contractors — or order through your jobber

for full information — write or call

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1 EVAPORATOR COIL (4 row) is properly inclined and oversized to wring out more moisture and produce ideal comfort. Less fins per inch insure proper air handling and low air resistance. More coil area is exposed to the air for better cooling.
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3 BLOWER is whisper quiet, powered by ⅓ H.P. Motor, slow speed, variable capacity and quiet in operation. Statically and dynamically balanced.
4 CABINET—base section permits use of furnace blower where desired or advisable. All metal parts protected against moisture by use of zinc chromate primer and enamel. All parts accessible from front panel. Thick fiberglass under aluminum foil fully insulates, thermally and acoustically.
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8 FAMOUS TECUMSEH COMPRESSOR—completely sealed in oil; spring mounting eliminates vibration, thus giving smooth quiet operation. It can barely be heard and never requires oiling. Hermetically sealed Tecumseh Compressors insure: 1. NO belts are used; 2 NO leakage at shaft seal; 3. NO lack of motor lubrication; 4. NO leakage of gasketed surfaces.
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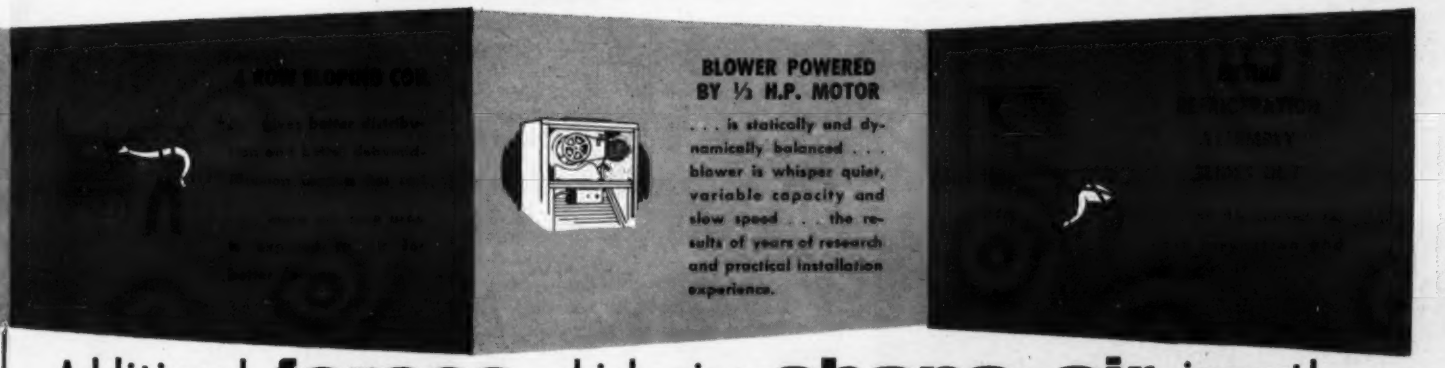
You are covered with a full 5 year warranty on the hermetic refrigeration assembly and one year product warranty. You'll probably never have to use your warranty as SHANA-AIR has been performance proved and built to last for years to come.

Here is Proof-Positive of SHANA-AIR's superiority in home air conditioning! These are the features of SHANA-AIR which are designed to out perform the best!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SHANA MANUFACTURING CO.
188 W. Randolph Street
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Commercial Refrigeration

CRMA Reports on Sales Trends--

(Concluded from Page 1, Col. 5)

with more equipment than the demand trend requires to insure a profitable rate of turnover, in contrast to the alarming situation which has developed in certain consumer goods industries.

Urging the continuance of this conservative policy, the speaker pointed out that prosperity at the factory level is meaningless if it means that the dealer or distributor has his capital tied up in equipment that he is unable to move.

Fixture Financing Different

Attention also was directed to a rapidly growing tendency in some fields, notably appliances and automobiles, to try to stimulate consumer buying through offering easy terms. So far, the discussion revealed, the "no-money-down forever-to-pay" fever has not infected the commercial refrigeration industry, and because of its traditional, conservative policies it is not expected to. It was pointed out that the sale of a refrigerated fixture, such as a display case or a walk-in cooler, represents a productive investment to the retail food merchant or other class of commercial buyer which literally pays for itself in direct sales volume.

When bankers or other sources of instalment purchasing credit become confused over the repayment characteristics of the transaction they are called upon to underwrite, as frequently occurs in times like the present, it was recommended that they be made aware of the facts. Chief among these is the inherent difference between a commercial fixture, which is a capital investment, and, for example, a domestic refrigerator or a home freezer, the latter providing the user with no financial return with which to meet his obligation.

Some Fail To Understand

Unfortunately, credit sources sometimes fail to understand this important differentiation, and when defaults and repossessions on consumer goods sales begin to rise, assume that commercial refrigeration time sales are subject to the same conditions.

Actually, as was brought out by W. B. McMillan, president of Hussmann Refrigerator Co., chairman of the CRMA Financing Committee, in his report to the meeting, delinquencies and repossessions in the industry have always been much lower than in the appliance and automobile fields, even in periods of depression, and have shown no significant changes in recent months.

Record on Bad Debts

One manufacturer, with annual sales in excess of $6 million, told the group that their write-offs for bad debts had amounted to less than $5,000 for the past five years, and he said that the majority of their dealers, who handle their own instalment financing by selling their paper to local banks and finance companies, were rarely obliged to repossess an installation, and when this does occur, are usually able to dispose of the used equipment without loss.

McMillan attributed the industry's enviable credit record to the extreme stability of its markets, the fact that a merchant or other operator is virtually out of business if his refrigerated fixtures are removed for nonpayment, and to the long-established policy of the industry in requiring adequate down payments and moderate maturities.

Under the financing program developed by leading finance companies and banks for the industry over the years, he reminded, cash down payments are at least 20% of the full unpaid balance of the contract, with maximum maturities of 24 months for balances of less than $3,000, and 36 months for balances over $3,000. So-called balloon notes are not permitted, nor are advance refinancing agreements.

C. V. Hill, Jr., president of C. V. Hill & Co., a member of the Financing Committee, told the group that past experience showed there was little if any connection between time payment requirements and sales volume in the industry. He cited several examples where attempts to increase volume by offering and advertising more liberal terms than were available from other equipment suppliers in the territory had unfortunate consequences; competitors were quick to offer even more generous terms, with the result that each continued to do the same amount of business, the only difference being that much of it was on a precarious credit basis with eventual high losses through defaults and repossessions.

Advice to Dealers

Since the dealers, rather than the manufacturers have handled the bulk of time sales financing in the industry in recent years, Hill urged them to give this matter most serious consideration and not, as he expressed it, "let themselves be tempted by the false promise of getting a bigger share of business than the 'other fellow,' without working for it through legitimate selling techniques, unless they have the resources to stand the losses such a policy inevitably creates."

A report from the CRMA executive secretary, Paul H. Sullivan, on the recently created Business and Defense Services Administration program of the U. S. Department of Commerce led to a decision to join with other segments of the refrigeration and air conditioning industry in helping to develop a suitable cooperating activity. It is being headed up by James W. Anderson, as chief of the General Service Equipment Branch, General Industrial Equipment Div. of BDSA. Anderson occupied a similar position under NPA.

New Gov't Committee

CRMA's president, Reese L. Harrison, president of Friedrich Refrigerators, who acted as chairman of the meeting, announced the appointment of a Government Relations Committee for that purpose. It will be composed of J. H. Coolidge, president of Sherer-Gillett Co.; C. V. Hill, Jr.; Millard Mayer, board chairman of Koch Refrigerators, Inc.; W. B. McMillan; and Robert L. Tyler, president of Tyler Refrigeration Corp. The latter was designated to serve as chairman.

For the past several years, spring meetings of the association have featured an annual "Guesstimating Contest," in which the members individually estimate the probable sales volume of the group for the ensuing year. When the ballots deposited at the April, 1953, meeting were opened and tallied, the most accurate forecast was found to be that of J. D. Harris, president of The Warren Co., who received a cash award. Winners of second and third prizes, respectively, were Emory S. Fowler, president of Fowler Equipment Co., and J. W. Bostwick, vice president in charge of sales of McCray Refrigerator Co. The sealed ballots containing the delegates' 1954 volume forecasts will be opened at the April, 1955, spring session.

Examination of demand trends revealed that open-type self-service display cases continue to spark the industry's sales progress. Sales of such equipment last year, including self-service frozen food cases, accounted for 60.8% of total commercial refrigerator production, compared with 48.7% in 1949, the members were informed.

Self-Serve Ratio Grows

The ratio of self-service frozen food display equipment rose from only 9% in 1949 to 20.7% in 1953, the association's figures disclosed, evidence of the rapid acceleration of demand for frozen food display facilities in recent years. The discussion indicated that these trends have continued into 1954 virtually unchanged.

Upright commercial freezers, a relatively new addition to the industry line, were reported to be moving in increasing volume, with the principal demand coming from retail bakeries, restaurants, hotels, and institutions, although many food stores are beinning to make greater use of this type of fixture as a storage facility to supplement their frozen food display equipment. Encouraging growth of demand among retailers for the so-called island display fixture as a productive impulse-buying vehicle also was reported.

Some Costs Level Off

Last year was a bit more kindly to the industry, profit-wise, than was 1952, according to an exchange of profit experiences in the meeting. Although progressively higher costs for materials, labor, overhead, and taxes during the Korean war period and the remaining months of last year caused substantial reductions in margins, increased volume and more efficient production techniques enabled most members of the industry to offset these factors to a reasonably satisfactory degree, the discussion suggested.

Materials costs were reported to have leveled off during the final quarter of 1953, and are now stable. Although labor rates and overhead expense have both continued to show some upward movement, the prospect of increased sales volume plus continued emphasis on cost-reduction methods in the factory are expected to result in a materially better profit position this year, it was generally agreed.

Bigger Is Representative Of Federal Refrigerator

WAUKESHA, Wis. — Appointment of R. W. Bigger of Berkeley, Calif. as factory representative of Federal Refrigerator Mfg. Co. was announced recently by A. T. Mickle, sales manager.

R. W. Bigger

For over 15 years, Bigger has been active in retail sales of commercial refrigeration equipment on the west coast.

His territory will include the northern half of California, the northwestern area in Utah, and the southwestern counties in Oregon.

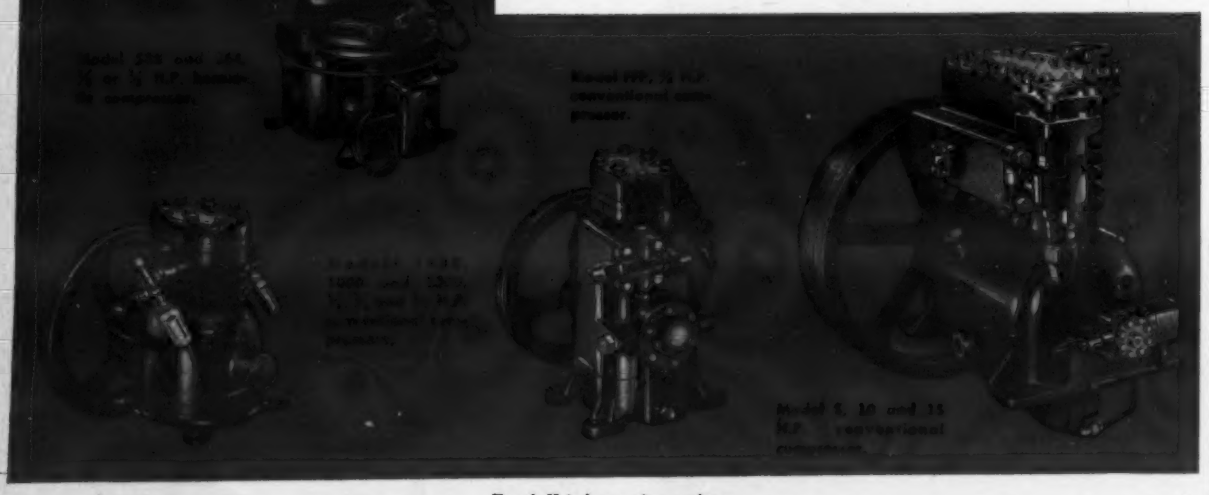
Now There is a Tecumseh
COMPRESSOR FOR ANY
REFRIGERATION APPLICATION

The complete line of hermetic and open type compressors!

For a really complete line of replacement compressors, both hermetic and conventional, see the new Tecumseh jobber line. Here is a replacement compressor for any application including hermetics from ⅛ to 2 H.P. in the full range of back pressures and open type from ⅛ to 15 H.P.

Specifically designed for the jobber trade, these compressors contain all the latest improvements in refrigeration compressor design. Of particular interest are the hermetics for most domestic and commercial applications and the new "V" type compressors covering the 1 to 3 H.P. range. The 2 and 3 H.P., VFP compressor, incorporates the last word in conventional compressor design and contains many new improvements including: pressurized lubrication, high speed operation, compactness of design and maximum capacity.

But see for yourself the compressor line that really gives you a perfectly designed model for any application. See the Tecumseh line today!



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Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Product Notebook Issued By Norge for Retailers

——KEY NO. P-410——

CHICAGO—"Feature Facts," a pocket-size notebook of pictures and specifications of every appliance in its line, was announced recently by Norge Div. of Borg-Warner Corp.

The 46-page notebook is expected to make basic product information readily available to every Norge retail salesman, according to John D. Schuman, advertising manager.

Selling features of each appliance are listed, with space provided for dealers to insert their prices and terms.

Water Treatment Processes Explained In Booklet

——KEY NO. P-411——

PHILADELPHIA—More than a dozen important water treatment processes are serving industry today. To explain these variations, how they work, the equipment they require, and the type of water they produce, Rohm & Haas Co. here has compiled a 24-page booklet entitled, "If You Use Water."

Illustrated with two-color flow diagrams, the booklet discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization.

Under each of these classifications, the booklet presents the major process variations. For example, the deionization section describes multiple and mixed bed systems and why different types of water supplies require different combinations of ion exchange resins and equipment to produce effluent water of a given quality.

The advantages of the various water treatment methods are discussed and interpreted in terms of the applications in specific industries. Copies of the booklet may be obtained on request.

Brightly-Colored Folder Shows Super Merchandisers

——KEY NO. P-412——

ATLANTA—A 12-page brightly-colored folder on Warren self-service "Super Merchandisers" has been published by Warren Refrigerators here. The folder illustrates in color the various models in the Super-Merchandiser line and points out the special features of each, noting particularly the merchandising advantages of each style.

Savings Story Told on Standardized Fittings

——KEY NO. P-413——

CLEVELAND—Why and how standardized fittings offer the key to higher dollar profit and greater sales volume on residential air conditioning and warm air heating jobs is explained in a brochure issued recently by the Air Distribution Institute here.

The 8-page booklet gives practical pointers on how to simplify cost estimating and conserve on-the-job time and 11 specific short studies and stories on saving. Other major features of standardized fittings are briefly reviewed.

The booklet also graphically illustrates layouts for extended plenums, reduction, and perimeter heating systems.

Copies of the book are available on request from the institute.

Sherer Describes New Shelving of 'Stylaramic'

——KEY NO. P-414——

MARSHALL, Mich.—Literature on the "Stylaramic" line of Sherer reach-in refrigerators is now available from Sherer-Gillett Co. here, the company has announced. The line includes models in 28, 45, and 75-cu. ft. capacities with either glazed or solid doors.

Featuring a coil that is close coupled with the self-contained condensing unit, the Stylaramic models have shelves running full length and width of the storage compartment without the break usually necessary for the coil housing.

First Parts Catalog Issued By New York Export Firm

——KEY NO. P-415——

NEW YORK CITY—Sabal-Kielmann, Inc. here, export firm specializing in commercial refrigeration, has announced publication of its first parts catalog.

The 120-page catalog contains illustrations, descriptions, and specifications on a wide variety of refrigeration equipment, parts, and supplies.

An index is provided.

According to Sabal-Kielmann, the catalog is available to any refrigeration company overseas (with the exception of Canada and Alaska).

Tranter Catalog Stresses 'Hold-Over' Plate Features

——KEY NO. P-416——

LANSING, Mich. — Nine design "extras" are stressed in a new catalog issued by Tranter Mfg., Inc. for its Kold-Hold Div., emphasizing features of "Hold-Over" plates for truck refrigeration.

The catalog (No. 54) contains a simplified method for selecting truck plate requirements, tables of plate capacities, refrigeration specifications, and the heat leakage of some common insulating materials.

It also contains pictures and brief explanatory material concerning other Kold-Hold truck refrigeration products, including "Kold-Trux mobilmatic" refrigeration units, "Hydro-pack" blowers, and quick-action plates.

One of the nine "extras" on which particular emphasis is placed is patented perimeter freezing which results in freezing of plate outer edges first to place strain caused by expansion of the eutectic on the center and strongest part of the plate, it was pointed out.

Other features illustrated in the new catalog are Kold-Hold mounting accessories, make and break assemblies, drain pans, heat exchangers, vibration absorbers, and dehydrators. Another page of the new book is devote to illustration of typical plate hook-ups and typical plate arrangements.

Mailing Piece Describes Temprite Water Coolers

——KEY NO. P-417——

BIRMINGHAM, Mich.—A mailing piece describing the Temprite line of water coolers has been issued by Temprite Products Corp. here.

The color folder describes all models and points out the features of the Temprite cooler. It provides roughing-in dimensions, tells how to determine the number of coolers needed, lists cooler capacities, and mentions various water cooler accessories.

New 'Precipitron' Described In Westinghouse Bulletin

——KEY NO. P-418——

BOSTON—The new ceiling-suspended model of the "Precipitron" electrostatic air cleaner is described in a four-page bulletin available from the Westinghouse Electric Corp.

The bulletin illustrates how the new unit may be installed in the cold air return duct of a conventional warm air heating system in either a horizontal or vertical position.

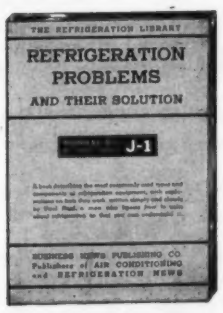
The necessary service and utility connections are also listed by the firm.

Each of the many features of the Precipitron cleaner is described. A floor unit for larger homes up to 12 or more rooms is also described.

REFRIGERATION PROBLEMS

AND THEIR SOLUTION

by PAUL REED



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GUARDSMAN DRIER dries your refrigerant
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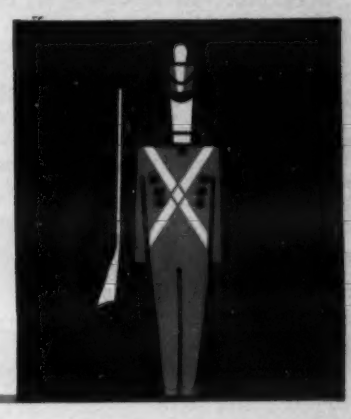

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inlet baffle and dispersion plate distributes flow of refrigerant evenly throughout the desiccant.

spun copper body with silver brazed connections provides strong, leakproof construction.

available in a wide range of sizes from 4 to 32 cu. in. with suitable end connections; packed in sturdy, dustproof containers.

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Why Not Change Parts of Hermetic Systems?

Part 1 of a Three-Part Article Which Gives History of the Problem and Offers an Example of How It Has Been Done

By John E. Unger, Service Manager, The Coolerator Co.

The subject of this paper as announced is—"Why Not Change Parts of Hermetic Systems?"

Lets not construe this to mean —"all hermetic systems"—but those manufactured during the last 14 or 15 years.

It will not be my intention to prove our company's view on this subject, but present such facts as we have available to us—and then let you draw your own conclusions.

To properly present the subject it is necessary to review some of the history of refrigeration as it pertains to household refrigerators.

Let's think back and fix in each of our minds—just how the first refrigerator was produced. Probably someone took a cabinet, and it could have easily been an ice refrigerator cabinet, and then installed some tubing made of copper in the area where ice was normally placed.

I believe that all of you can visualize the rectangular metal box with the copper tubing wrapped around it, and this served as the first evaporator. True, it was not very handsome, as we think of an evaporator today, but it did the work that was necessary at that time.

The next item that was necessary was a compressor, and as you think back you will remember that the compressors that we used were massive pieces of cast iron and probably powered with a fractional horsepower motor, connected to the compressor with belts. The belts would break from time to time, but again, this was the penalty we thought we had to pay to have the luxury of refrigeration in the home.

By comparison with today's standard we will remember that the compressors and the fans were terribly noisy and a lot of vibration occurred from the large equipment. It was so much more noisy than the dripping of water from the melting ice in the ice refrigerator, that something had to be done to correct this situation.

Who Installed First Units?

What then was the next step? Someone in the refrigeration industry hit upon the bright idea that probably we should put the condensing unit with all of its noise and vibration in the basement, thereby getting it away from the area in which we lived. This was the answer to the noise problem in the living area of the home.

Do you remember who made such installations? That's a point that I want you to remember as you and I reminisce—just who made the installations of the first refrigerators? Could it be the men who ultimately became members of RSES and allied organizations?

It has already been mentioned that some of the problems with the first refrigerators were the massive condensing units with their high noise level, and in the first refrigeration systems, moisture raised its ugly head and has still continued to some extent today, but very, very small. How many times have you observed sludge and copper plating due to moisture in the old systems?

Early Service Problems

There was always the problem of leaks occurring in the system. Flare nuts were used to make connections and there were always valves on the compressor itself and even though the refrigeration engineer had installed the component parts with all due caution, he could not eliminate the mechanical vibration that occurred, nor could be stop the electrolysis of the soft solder joints in the evaporator section.

It may be easily stated with a fair amount of factual data, that even though proper installations were made by refrigeration engineers, during the early days of refrigeration, the failure of installations was laid at their door and not at the design of the product or tools and processes of an industry that was in its infancy.

After this first refrigerator, came a phase of design which found the motor and compressor connected directly together. This eliminated the fan belts. There was always the problem still at the time of fan noise since the motors that were used were of the type with the shaft extension on either end, one being connected to the compressor by the use of fiber universal joint or some other means and the other one having a three or four-bladed fan attached thereto in order to pull air through the condenser to dissipate heat removed from the refrigerator area.

Cut Down 'Serviceable' Items

We eliminated the fan belts and, therefore, we no longer needed a serviceman to replace fan belts. It, however, did not remove the noise caused by the fan when it drew air through the condenser. By the nature of the design, lint was always carried to the condenser and restricted the air flow, and we still had with us the other source of trouble, and that was the old familiar seal leak.

We still could, even at this time, if a motor failure occurred, replace the motor, but it was thought that anyone could replace the motor and whether or not it was properly lined up did not make too much difference and at this point the manufacturers started to draw away from the services of refrigerator service engineers, who had been performing work on household refrigerators.

About the same time one manufacturer believed they had the solution to the seal leak problem. Their design incorporated a motor having a long tapered shaft about 5 in. in length extending through one end bell of the motor. This special end bell was actually the compressor head as you and I know it and after the rotor and cylinder assembly were made on the shaft the compressor dome was attached to the special motor end bell.

This design eliminated the fiber universal coupling, but it still had its problems of design. One of the main problems for me at that time was keeping the long tapered shaft concentric with the face of the compressor head during the assembling of the motor.

'Return to Factory' Idea

With this close coupled—or short-coupled design, the refrigeration service engineer could no longer change a motor in the field if it became defective unless he were equipped to dismantle the compressor assembly. This required special tools and it was thought by the manufacturer that sufficient people did not know enough about refrigeration or its compressor, and therefore, to protect the five-year warranty, the manufacturer concluded that only service repairs would be made at the factory. The RSES and its training programs were not too far advanced during that time, however, with RSES and its training program today we feel that the manufacturers should recognize this work.

With the direct-connected units we came to the phase of the package unit. It so happens that I am quite familiar with one of the package units even though it was not a hermetic and for background purposes we will dwell on this package unit for a little while, however, first let's see some of the problems that occurred due to the first package unit which had seal caps on all of the valves. If a seal cap was removed, the warranty was voided.

A Peculiar Case

I am reminded of a case on one of these type units where a customer called in and said that her new refrigerator was not operating properly. The complaint on this particular refrigerator was that it

(Continued on next page)

Does This Mark a New Era in Service Work?

Possibly the most significant discussion on refrigeration servicing to be presented since the end of World War II was made by John E. Unger, Service Manager, The Coolerator Co., in his talk on "Why Not Change Parts of Hermetic Systems" presented at the recent ARI Educational Conference at Long Beach, Calif.

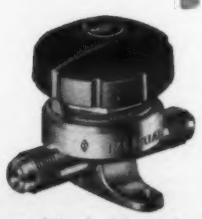
The importance of this discussion is in the fact that it just doesn't discuss the subject in generalities, but tells *why and how* a major producer of refrigerators, freezers, and room air conditioners has *put into operation* a plan for changing units in the field.

Because the material runs to some length, it will be presented in three instalments. The first one reviews the history of compressor and refrigeration system development, and explains why the "Back to the Factory" movement on inoperative units became so popular.

Second instalment will tell how the new plan of field changing of units was put into operation, and the third article will outline some of the equipment and methods that are recommended for best practices in field changing of condensing units.

See These Developments by IMPERIAL

RED HEAD
PACKLESS VALVE
with solid TEFLON diaphragm



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Non-Refillable • Steel Shell—Brass Finish

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End caps are silver brazed to steel shell for maximum strength and freedom from leakage. Non-refillable. Has reinforced monel metal screens at both ends. Non-directional—either-way flow. Furnished with brass flare nuts and copper seal caps. Sizes: 9, 14, 20 and 30 cu. in.

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Makes Precision 45° Double Flares
Prevents cracking or splitting of brazed steel tubing in flaring. Especially advantageous for copper and aluminum tubing where joints are subject to frequent disassembly and reconnection. Positive gauge assures correct size of flare every time. Also makes single flares.
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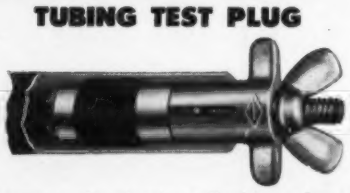

For temporarily shutting off tubing when making repairs or testing. Plug is inserted in end of tube and wing nut is tightened. Will hold pressures to 100 lbs. 5 sizes.
No. 140-F for 1/4", 3/8", 1/2", 5/8", 3/4" O.D. tubing. Specify sizes.

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Business News Publishing Company 4-26-54
450 W. Fort Street
Detroit 26, Michigan

Rush me REFRIGERATION FUNDAMENTALS No. N-1 for which I will pay $1.50.

Name .....
Address .....
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Why Not Change Parts?--

(Continued from preceding page)

was running too much and consuming too much electricity.

A chap from the retail outlet called upon this customer and it seemed that the refrigerator was operating properly, as far as he could tell. It had the correct degree of temperature in the food compartment and in the small "U" type evaporator, the water was frozen in the ice cube trays and he was unable to determine just what the cause would be with reference to the customer's complaint of the refrigerator operating for too long a period.

Month after month for about five months this customer continued to call in and the chap would continue to go out and check the refrigerator and find that nothing was wrong. She would still explain that her light bill was much, much too high and that she definitely wanted something done about it, and since five months had elapsed she thought sufficient time had passed.

However, since this system was covered with a five-year warranty, and since if the retail outlet would have been desirous of getting a refrigeration service engineer to break into the system to check it, by so doing, they would have voided the five-year warranty.

The next step in this story is that the retail outlet finally contacted the manufacturer and outlined all the checks that he had made, which of course, were visual and the manufacturer then sent a representative to this customer's home in order to find out why the refrigerator was seemingly using too much current. With the manufacturer's representative there, they then could open the system if necessary to find out just how it was operating.

The gentleman from the retail outlet and the manufacturer's representative drove up to the home without prior appointment and the two walked around to the rear of the house and as they stepped up onto the screen enclosed porch they glanced into the kitchen and there with the refrigerator door open and with a stool conveniently sitting directly in front of the refrigerator was the maid ironing away leisurely and keeping one portion of her anatomy cool. Could it be that this was the start of the individual room air conditioner industry?

What Serviceman Could Do

I am not saying that a refrigeration serviceman could have corrected this condition. However, had a refrigeration serviceman not been hampered by the voiding of the five-year warranty if he entered the system, he could have with his tools (pressure gauges) and experience proven to himself as well as the retail outlet and, in all probability, the customer, that the product was operating properly.

I would imagine that the experienced man would have asked the power company to place a recording meter on this refrigerator, which would have then determined what periods during the day the refrigerator was running for great lengths of time and by this means probably reached a conclusion.

On this package unit that I am referring to a serviceman would have eliminated the returns to the factory because of dirty condensers and, please believe me that we received many a unit back at the factory which, after cleaning the condenser, operated properly.

This, of course, was an expense that was not necessary and even though the instruction booklet carried instructions as to cleaning the condenser twice a year and oiling the motor twice a year we still received units back, for such simple items.

We have been discussing the first package unit, but let's take a little time out here now and see just how it was manufactured.

Problems in Compressors

First the compressor was probably designed with a high-pressure dome and with the suction side of the system entering directly into cylinder. How many times have you and I watched a refrigerator system flood back through a check valve because of a check valve leak?

You and I know that the defective check valve was under a certain fitting along the side of the compressor head or some other place where we could get to it, and that we could replace same. However, if we did attempt to do so, we probably couldn't get the check valve assembly from the manufacturer and secondly if the unit was within warranty, we voided the warranty. The answer, then, was naturally—back to the factory.

Perhaps it is well that this was the procedure at that time. Why, you might ask? Remember in those days, the manufacturer did not have the tool machines that later came into being.

Finish of 5 micro inches could not be obtained, cylinder walls were rough, cast iron was deposited through the system, after it was worn off because of the friction, and more likely than not the check valve leak was due to cast iron or probably even some moisture or some oxidation due to the brazing of lines to the receiver tank, or it might have been even from the condensers brazing operation.

The system had to be completely washed out. "Get rid of the sludge and dirt" slogan came into being. The order from the front office was—keep them clean, dry, and free from leaks. This we could do up to the limit of the tooling and processing facilities available.

Problems in Evaporators

Now, let's take a look at the evaporators that we used during this period. We still didn't use stainless steel; most of the evaporators were made of brass sheets and copper tubing. The joints were made with the soft solder and with the freezing and thawing that occurred in the evaporator area, we all know what happened to the soft solder. Because of electrolysis, it just disappeared from the joints after some years.

Why not have a good serviceman resolder the leak—fine—but, what about the cast iron, sludge, and so forth—well the answer was, back to the factory.

You can readily see that—back to the factory idea—was well established at this time. Not necessarily because people could not service it in the field, but because of the problems that were inherent due to machine tools, design of system, refrigerant used, and even as some say the nature of the brute.

Viewpoint Starts to Change

However, it is definitely felt by our company that had it not been for the previous items mentioned —sludge, cast iron, etc.— that an experienced refrigeration service engineer could have changed, as an example, the refrigerant metering device since this was the source of some problems and he also could have stopped a number of units from being returned to the factory because the screw controlling the amount of refrigerant passing into the evaporator by the expansion valve had been changed by someone.

However, since the refrigeration serviceman was not allowed to break into the system so that he could properly set the metering device this then caused the return of the system to the factory.

Just what was the result of this back to the factory service? Two items stand out very high in my mind.

Big Stocks Necessary

Number one—in order to give prompt service to customer, it was necessary for the distributors and the retail outlet to purchase numerous loaner exchange units. This, of course, increased the number of units the manufacturer could build.

Secondly, even with a large number of loaner and/or exchange units, it was necessary to establish as many as twelve service shops for one organization in various

(Continued on next page)

NEW IDEAS

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4-26-54

MORE COILS
ARE MADE BY
KRAMER
THAN BY ANY OTHER
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Check these 7 BIG reasons why

DELCO SHADED-POLE MOTORS
are favorites in their field!

Rugged die-cast aluminum end frames.

Double bonded mounting rings of resilient, oil-resistant material.

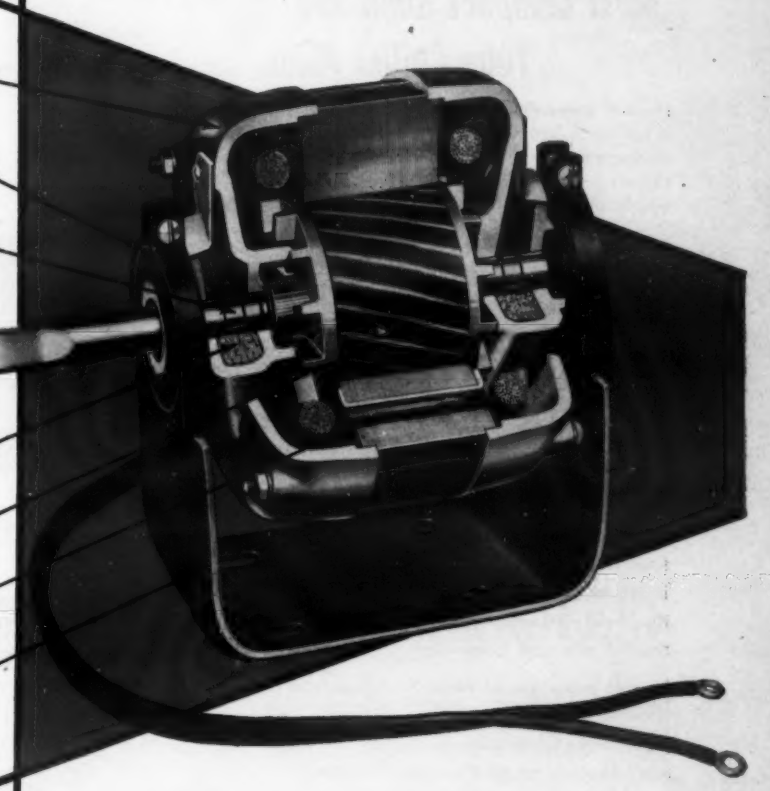
Two high-tin-babbitt bearings, widely spaced for greater stability.

Large oil reservoirs provide long-life lubrication.

Aluminum die-cast rotor and shaft dynamically balanced.

Impregnated and baked windings assure moisture-resistant insulation.

Heavy-gauge steel base provides greater rigidity and strength.



Delco shaded-pole motors, available from 1/40 to 1/12 horsepower, are specifically designed to move air in heating, ventilating, refrigerating and air-conditioning applications. They have a long, trouble-free life and operate with a minimum of noise and vibration.

These are some of the reasons why a Delco motor is the best running mate your product can have.

DELCO PRODUCTS
Division of General Motors Corporation
Dayton, Ohio

Sales Offices: Atlanta • Chicago • Cincinnati • Cleveland • Dallas • Detroit • Hartford • Philadelphia • St. Louis • San Francisco

THE BEST RUNNING MATE YOUR PRODUCT CAN HAVE!

Why Not Change Parts?--

(Continued from preceding page)

areas of the country to take care of the service that was needed.

Then, came the revolution.

After the package unit regime the industry followed up with variation in design of hermetic systems. Servicing of the hermetic systems, because of the precedent set, apparently followed the same plan as that of the first package system wherein those failures that occurred had to be returned to the factory for servicing, and if anyone touched it in the field it automatically voided the warranty.

Product Improvements

Let's now take a look at the improvements that came into being relative to the manufacturing techniques, process control, and equipment that was available.

The micro finishing of surfaces of parts that previously was cause for cast iron dirt was available. This corrected the excessive wear of the moving parts in the compressor and the fact is, that little if any wear now occurs.

The vacuum pumps and the methods for using same, plus high efficiency commercial dryers for plant equipment to remove moisture from the system were developed. Therefore, our moisture problem was almost entirely eliminated in this type of system.

Silver brazing alloy was made available—no more oxidation of the soft solder joints during the years.

The low-pressure dome design of the compressor came into being—no more low-side check valve leaks.

Capillary tubing for controlling refrigerant came into being for household refrigerators—no more erratic expansion valves and, also, no float valves or unloading valves as used with split-phase motors, that seemingly would stick from time to time.

And, then of course, the small hermetic compressor and the complete system with all lines silver brazed in solid, with no openings or valves on the compressor.

Then came Formex wire for motor windings, which extended the life of the motor, as well as making it much easier to remove moisture from motor windings and systems. And then the specialized manufacturers of hermetic compressors. The organization of which I am thinking put tool making practices to work, and then adapted production processes and controls to this tool making skill and became the largest independent manufacturer of hermetic compressors. No more .001 thousand eccentricity limits on shafts and bearings; they cut it to .0002 tenths of a thousandth.

Stainless steel, black iron, hot galvanized, and aluminum came into being for the evaporators. It looked now like the manufacturer had the complete answer to the refrigeration system since he was now using the silver braze alloy instead of soft solder. He, also, could submerge the whole system if he so desired in a water tank to check for leaks, he could use a halide torch to check for leaks, when he used "Freon" refrigerant, and of course, in the recent years the electronic leak tester.

How could anyone say now that they know that the unitary household refrigeration system is not the complete answer for the refrigeration manufacturer?

A Way to Lower Costs

This, then, was the ultimate. The manufacturer's quality had increased. Naturally, then, the service cost would be lower, because of less returns to the factory for repair.

But, I ask, why not make the service cost still lower? Why not change parts of hermetic systems by the use of competent refrigeration service engineers. We don't follow the practice of returning a commercial installation back to the factory.

The basic reasons why the old system had to go back to the factory were removed.

The systems as produced were drier—very little moisture if any could be found in the system.

Very, very little cast iron wear.

Formex motor windings — no more burned cotton windings, which caused contamination in the system if the motor shorten out.

No more soft solder to disappear during the years, because of electrolysis.

Besides this, look at RSES and other refrigeration groups and all of their training for their members.

At this point I might ask, who installs commercial systems today? These are not package units or unitary systems. They are installed by experienced refrigeration men, such as RSES members.

Why not, then, change parts of hermetic systems?

(To Be Continued)

COIL PRODUCTION MACHINERY in the new Bush Mfg. Co. plant at Riverside, Calif. which will serve Far West and Southwest areas gets an inspection at the formal plant opening from Al Houle, Harry Quinn, and Les Garnsey. Production is Houle's responsibility in the Bush western setup, Quinn handles sales, and Garnsey is in charge of financial matters.

Bush and Heat-X-Changer Formally Open Plant In Riverside, Calif. To Serve West

RIVERSIDE, Calif.—Bush Mfg. Co. and its wholly-owned subsidiary, Heat-X-Changer Co., recently held a formal opening of a new plant here.

Located on a 9½-acre plot which allows ample area for future expansion, the new plant comprises 35,000 sq. ft.

Company officials pointed out that these additional production facilities will help them keep pace with the increasing West Coast demand for Bush and Heat-X products, and will permit them to provide that area with the delivery and service it requires.

Many of the Bush products are now in production, including direct expansion, water and steam coils, evaporative condensers and cooling towers, air handling units, plasticoolers, finned coils, product coolers, and some heating products.

In addition, Heat-X heat interchangers and inner-fin liquid chillers are now being made here.

In attendance at the formal opening were about 300 wholesalers, contractors, consulting engineers, and representatives of other manufacturing concerns.

Company officials present included Cecil Boling, president of both Bush and Heat-X-Changer; Edward M. Flannery, vice president of Bush; James A. Mulcahey, director of sales for Bush; and Alan Decker, sales manager of Heat-X-Changer.

Howe Announces New Low Temp. Solder for Industry

JERSEY CITY, N. J.—Howe International here, international distributor and manufacturer of welding alloys, announces a new soldering alloy developed especially for the air conditioning and refrigeration industry.

The new alloy, known as "Howalloy No. 425," is applicable through any application of heat generating 425° F.

"It possesses the same flow and capillary characteristics of the high-melting silver solders, and is entirely free of zinc and lead," the company said. "It has extremely high resistance to corrosion, and applies easily to copper, stainless, brass, and other applications regularly found in maintenance work."

Jack Howe, in announcing the alloy, said:

"After six months of thorough testing in the air conditioning and refrigeration fields, we found that our new No. 425 alloy, when used with our recommended No. 425 Acid Flux, is invaluable in eliminating the usual problems encountered in joining copper, stainless, brass, bronze, steel, etc., or any combination of these metals.

"Recent physical tests showed a lap joint on brass—using the new No. 425 alloy—sustaining over 3,000 lbs. pressure, and that the weld under test finally broke due to failure of the brass itself."

Howe claimed that the alloy gives much higher footage (because of its lower weight), yet costs less than one-half the regular price of silver solders commonly available.

Worthington Ups McBath To Gen. European Mgr.

HARRISON, N. J. — S. Riley Williams, Worthington Corp. vice president in charge of foreign business, has announced the appointment of B. R. McBath as general European manager.

McBath will headquarter at the French-Worthington Co. Paris, France offices.

A graduate of the University of Tennessee with a B.S. degree in engineering, McBath joined Worthington's Harrison Works in 1928 where he served for 20 years in charge of various engineering activities and as chief engineer of Research & Development.

Prior to leaving Worthington in 1949 to serve as vice president of U. S. Hoffman Mfg. Corp., Syracuse, N. Y., McBath held the post of Plainfield Works manager.

In 1953, McBath returned to Worthington as assistant to the vice president in charge of manufacturing. Previous to his present appointment, he was acting manager of the New Worthington Decatur, Ala. plant.

Now! LIQUID CHILLERS with INNER-FIN

Most Compact Shell and Tube Chiller Made

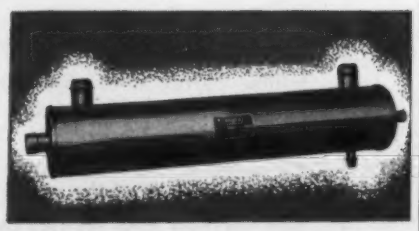
Heat-X *Inner-Fin* Chillers fill the need for a compact, highly efficient direct-expansion evaporator for use in chilled water air conditioning systems and on other liquid cooling applications.

Patented *Inner-Fin* construction makes the Heat-X Chiller the most compact shell-and-tube chiller on the market. Copper inner-fins in the refrigerant passages greatly increase the heat transfer efficiency . . . permit smaller size and lower cost.

heat-x

Water passages of Heat-X Chillers are of non-ferrous construction to eliminate any possibility of corrosion. Since they are single pass, there is no oil trapping problem.

Capacities of Heat-X Inner-Fin Chillers cover the range from 3 to 35 tons. Selection of water baffle spacings is available to meet a broad range of water pressure drop requirements. Two inch thick rock cork insulation with sheet metal cover is available on all models.



Request free descriptive bulletins No. 1037 and No. 1038.

THE HEAT-X-CHANGER CO., Inc.
BREWSTER - NEW YORK

MORE COILS ARE MADE BY KRAMER THAN BY ANY OTHER COIL MANUFACTURER

how to make hot sales prospects out of cold customers...

You'll melt sales resistance in a hurry with Ranco's new window air conditioner controls . . . just the ticket for modernizing old-fashioned window air conditioners not equipped with controls.

Offices and homes both offer you tremendous sales possibilities. These new controls prevent over-cooling . . . hold down humidity . . . maintain a "just right" indoor climate day and night. Get your share of this *extra* modernization business with Ranco's new A13-109 (3° differential), or A 10-1564 (5° differential) control. Remember—whatever your control problem—it pays to see your Ranco wholesaler first. He has over 4,000 replacements—far more than available from any other source!

Ranco Inc.
COLUMBUS 1, OHIO

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

February Sales of Refrigeration Equipment Wholesalers Up 5% over Last Year

WASHINGTON, D. C. — February sales of refrigeration equipment and parts wholesalers were up 5% from a year ago and 8% above January, according to the Bureau of the Census.

Sales of electrical appliance and specialty wholesalers in February skidded 19% below the like month of 1953 but gained 6% compared with the previous month.

For the first two months of the year, sales of refrigeration equipment and parts wholesalers rose 7% above the corresponding period of last year and those of the appliance and specialty wholesalers were off 13%.

Inventories of the former group at the end of February were 7% higher than a year ago and 3% greater than on Jan. 31. Appliance and specialty wholesalers' inventories on Feb. 28 declined 4% compared with a year earlier but gained 3% compared with the end of January.

February sales of all wholesalers (as a group) reporting to the Census Bureau increased 4% over the previous month but were down 3% from a year ago. Sales for the first two months of 1954 were 4% below the corresponding period of last year. Inventories at the end of February rose 2% during the month and were up 1% over stocks on hand Feb. 28, 1953.

Sales

Kind of Business and Geographic Division	Per Cent Change —Feb. 1954— from Feb. 1953	Per Cent Change —Feb. 1954— from Jan. 1954	Per Cent Change 2 Mos. 1954 from 2 Mos. 1953	Feb. 1954 Panel No. of Firms Reporting	Feb. 1954 Panel Reported Dollar Values (add 000)
Appliances and specialties wholesalers	−19	+ 6	−13	111	21,465
New England	−12	+16	− 8	8	2,317
Middle Atlantic	−24	+ 5	−15	28	9,069
East North Central	−19	−12	−10	18	2,640
West North Central	− 8	+ 9	− 1	12	1,526
South Atlantic	− 6	+25	−13	16	1,634
South Central	−19	+21	−15	13	1,649
Mountain	− 9	+ 6	− 7	7	1,042
Pacific	−26	+ 1	−26	9	1,588
Refrigeration equipment, parts (com'l)	+ 5	+ 8	+ 7	71	1,622
Middle Atlantic	+12	0	+17	12	460
East North Central	+20	+43	+11	13	189
South Atlantic	0	+ 4	+ 2	24	468
South Central	+ 9	−11	+27	5	171
Pacific	+12	+52	+ 1	9	163

Inventory, End-of-Month (at cost)

Kind of Business and Geographic Division	Per Cent Change —Feb. 1954— from Feb. 1953	Per Cent Change —Feb. 1954— from Jan. 1954	Feb. 1954 Panel No. of Firms Reporting	Feb. 1954 Panel Reported Dollar Values (add 000)
Appliances and specialties wholesalers	− 4	+ 3	87	22,914
New England	−15	− 3	6	1,867
Middle Atlantic	− 7	− 4	19	5,127
East North Central	+ 6	+12	12	3,591
West North Central	− 1	− 9	11	2,401
South Atlantic	+ 6	+14	16	2,894
South Central	− 6	+ 6	10	2,785
Mountain	−13	+ 6	7	1,805
Pacific	− 2	+ 4	6	2,444
Refrigeration equipment, parts (com'l)	+ 7	+ 3	67	4,202
Middle Atlantic	+18	+ 8	11	982
East North Central	+18	− 3	13	688
South Atlantic	+10	+10	34	1,569
South Central	+ 5	+ 4	4	237
Pacific	−14	− 4	8	299

McCombs Supply To Hold Grand Opening

DENVER — Display booths by some 25 manufacturers will be set up in the new home of McCombs Supply Co. here for the two-day grand opening May 6 and 7, H. R. McCombs has announced.

The new building, already occupied by the company, is located at 1819 Wazee St.

McCombs said that he has invited architects, engineers, contractors, and servicemen to view the new building and the air conditioning and refrigeration supplies and equipment he sells during the grand opening. The festivities will be preceded by a "Manufacturers' Dinner" on the evening of May 5.

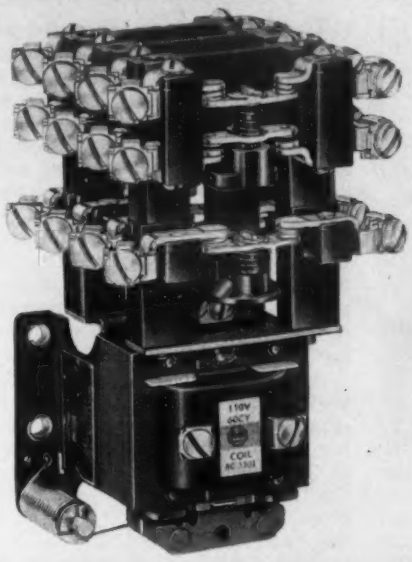
McCombs added that some manufacturers will use the same displays that appeared in the ARI-sponsored educational conference in Long Beach, Calif. last March.

Detroit RSES Elects Officers

DETROIT — Harvey Whitsett, Sr., superintendent of refrigeration for Detroiter Refrigerator Mfg. Co., has been elected president of the Greater Detroit RSES chapter.

Herman Blair is first vice president; Mickey Wood, second vice president; Ben Pozniak, secretary; Alex Wilson, treasurer; Reo Parent and Earl Jennings, sergeants-at-arms; Kenneth Wade and V. V. Solomon, educational chairmen.

Directors include the officers and Noel Purtill, William Pollock, Allen Christensen, Ed. Squires, James Carver, Ed. Lee, Don Tamberino, Ed. Roberts, and Arne Perttola.



OVER 300 TYPES of RELAYS

Solve Your Special Relay Problems with These Standard A-B Relays

Bulletin 700 Relays are small contactors built to the same high standards of ruggedness and performance as the regular Allen-Bradley line of motor controls. Over 300 different types are listed as standard, from 1 to 12 poles, with normally open or normally closed contacts. If you are developing a machine or installation requiring small but dependable magnetic relays, specify Bulletin 700 for a-c applications and Bulletin 200 for d-c applications.

Allen-Bradley Co., 1313 South First Street
Milwaukee 4, Wisconsin

ALLEN-BRADLEY MOTOR CONTROLS for Air Conditioning and Refrigeration • Manual and automatic across-the-line starters • Compression type velvet smooth starters • Pressure and temperature switches and controls • Relays and contactors from 1 to 8 poles Push buttons and selector switches.

A-B Quality
ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

THE MASTER SERVICE MANUALS - - -
— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.
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FRANK'S SUPERMARKET IN GARY, IND., GAVE ONE OF THEIR GF-17'S "THE 30-DAY TEST"

KELVINATOR "30-DAY TEST"
PROVED OPERATING COST
ONLY $7.46!
(For a big 17 cu. ft. open top, glass front, 7 ft. long cabinet!)

Sept. 17th, 1953. 2:30 PM, Murphy & Miller, Inc., Gary, Ind., installed this meter. (set at 0000).

Meter was installed direct on the power line to case.

This cabinet had normal load and use during entire period.

Oct. 17th, 1953. 2:30 PM, Meter reading—248.5 KW. (Gary, Ind., rate 3¢ a KW hour)—Cost $7.46.

YOU, TOO, CAN SAVE AND SELL WITH
KELVINATOR FROZEN FOOD MERCHANDISERS

Retailers from coast to coast certify that economy is only one of the outstanding advantages of Kelvinator's Frozen Food Merchandisers. Sales soar on frozen foods and related items. Traffic and volume show remarkable increases.

ACT NOW — Send this coupon for full information — do it today!

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14250 Plymouth Road, Detroit 32, Michigan
Gentlemen: I am interested in your frozen food merchandisers.
☐ Send complete product and pricing data.
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NAME.....TITLE.....
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CITY.....ZONE.....STATE.....

If Your Business Depends on Cold You Can Depend on Kelvinator
Division of Nash-Kelvinator Corp., Detroit 32, Michigan

LARKIN MEANS LOW OPERATING COSTS
FROST-O-TROL® AUTOMATIC HOT GAS DEFROSTER

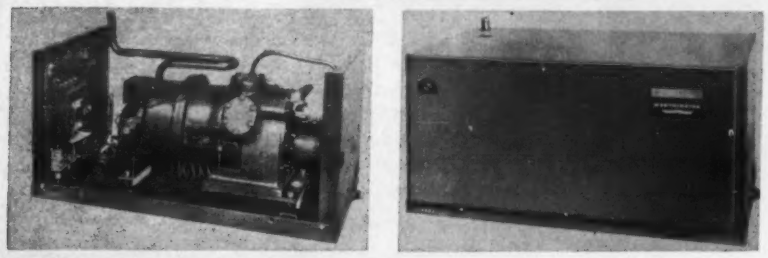
The purchase price of any product is often misleading, for it precludes the cost of long-run operation. All Larkin products are engineered for the lowest possible operating costs, yet they are priced right. That's why Larkin leads the field for long-run, low-cost operation.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY
LARKIN COILS
319 MEMORIAL DR., S.E. • ATLANTA, GA.

What's New

When requesting further information on new products, please use "Information Center" form.



WORTHINGTON packaged condensing unit with cover removed is on left. On the right is the same unit for remote installation with cabinet in place.

Packaged Condensing Units for Remote Use

——KEY NO. D-440——

HARRISON, N. J. — Two new packaged condensing units, in 3 and 5-hp. sizes, have been introduced by Worthington Corp. here for use where it is necessary to install the condensing unit in a location remote from the evaporator.

They are claimed to be particularly applicable to residential and commercial air conditioning and for industrial cooling. They are also suited for small water chiller applications, the company said.

Called the SCYC-40 and SCYC-60, both units use Worthington hermetic "motor-mated" compressors of the horizontal shaft type. "Freon-12" is used with the 3-hp. compressor and "Freon-22" with the 5-hp. unit. Both are the 3-cylinder W-type compressor.

A feature of the compressor is that the cold suction gas must pass through the motor to get to the cylinders, thus insuring an effectively cooled motor, the company said. Positive displacement, vane type, automatically reversible oil pump, large oil filter in the lubricating oil lines, and refrigerant-cooled cylinder walls are other features.

The compressors are available for either 3 phase, 60 cycle, 208 or 220 volt, or 1 phase, 60 cycle, 230 volt operation.

The condenser is fabricated of copper finned copper tubing. Choice of external pipe connections allow use of either series or parallel circuits for the condenser.

In addition to the selector switch, a combination starter and dual pressurestat is provided in the unit. This provides motor overload protection and limits both the suction and discharge pressure in the case of high head pressure or low suction pressure due to abnormal operating conditions, the company said.

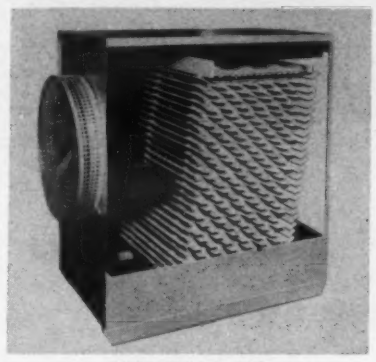
A new feature is the "reset" position on the selector switch. It eliminates the necessity of removing the front panel in order to get at the overload reset controls. This position permits the protective devices within the unit to be reset if they should trip out due to low voltage conditions, low water pressure, or high water temperature.

In addition, a "fan" position is included on the selector switch for use when this unit is used in conjunction with a remote coil and warm air heating system.

The front panel is easily removable, as it is secured by captive type screws that require only a ¼ turn to open. The cabinet is thermally and acoustically insulated by glass fiber. The compressor is mounted on rubber supports to give minimum vibration and noise.

The 3-hp. unit measures 37½ in. wide, 18 in. high, and 20¼ in. deep. The 5-hp. unit has the same height and depth dimensions but measures 48¼ in. wide.

Bush Introduces New Cooling Tower Line



——KEY NO. D-442——

WEST HARTFORD, Conn. — Bush Mfg. Co. here has introduced a line of propeller-fan type cooling towers for residential and commercial air conditioning applications.

Available in a capacity range from 2 to 15 tons, they are constructed with all-heart redwood nail-less fill.

Special coatings are provided to assure all-weather protection and continued attractive appearance, the company said.

Galvanneal panels are zinc chromate prime coated inside and out, then rubber undercoated inside and coated outside with Vinyl-base paint of high chlorinated rubber content, it was explained.

Standard motors are 110 volt, single phase, 60 cycle. All motors are totally enclosed and have built-in overload protection. Motors, fans, and drives are of sufficient capacity to handle average ductwork for indoor installation if desired, according to Bush.

Distribution pan, top, and fan guard are all easily removable for quick access to all internal parts, it was noted.

(A) Williamson cooling unit provides complete air conditioning with forced air warm air furnace. (B) Addition of blower package makes the unit adaptable for gravity-type furnaces. (C) Space cap converts cooler into commercial unit.

Williamson Announces 2, 3-Ton Air Conditioners

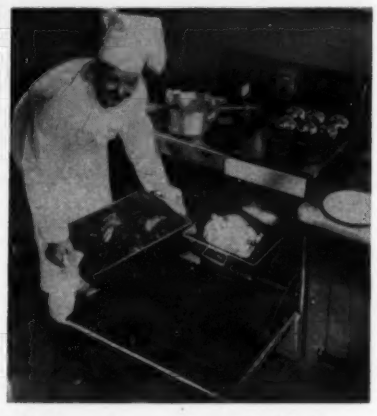
——KEY NO. D-443——

CINCINNATI—New 2 and 3-ton summer refrigerated air conditioning systems, reported to have the smallest base area of any such units now on the market, were announced recently by the Williamson Heater Co. here. The coolers require only 2.7 sq. ft. of floor space.

The new Williamson coolers are sectionally designed for easy handling and installation. The basic cooling unit is only 21¾ in. wide and 18 in. deep. This 44-in. high water-cooled unit is all that's needed to provide complete air conditioning with a forced air warm air furnace.

For owners of the gravity type furnace or for those wishing greater blower capacity, a compact blower package is added on top of the basic refrigeration unit. An easily attached space cap quickly converts the Williamson cooler into a unit for offices, restaurants, and similar large areas.

The Williamson summer space refrigeration systems are completely automatic. They require only thermostat setting to operate the refrigeration system. A summer-winter thermostat is available for control of both cool and warm air conditioning.



30-In. Commercial Unit Offers 5-Way Cooking

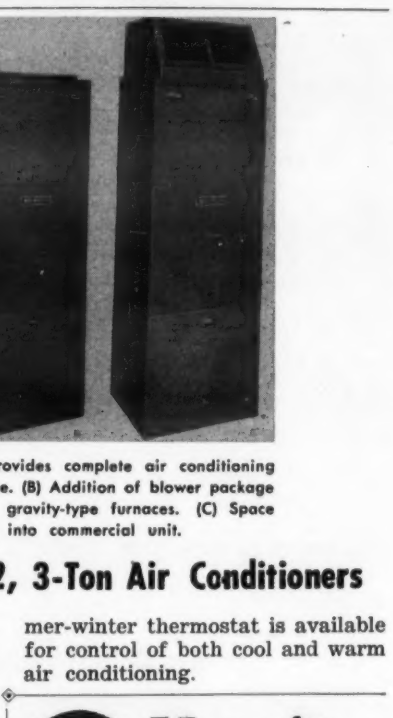
——KEY NO. D-441——

CHICAGO—Claimed to be the "world's first 30-in. complete commercial cooking center," the "Quintette" was introduced at the National Restaurant Show here recently by the Hotpoint Co.

The Quintette includes an oven, broiler, surface cooker, fry kettle, and griddle all in one 30-in. unit.

Designed for use in kitchens with limited space, the Quintette has a "market target of under $350," according to Orrin E. Wolf, Hotpoint's vice president in charge of commercial operations.

The unit has a satin-chrome steel top and backsplasher, gray body, and red controls.



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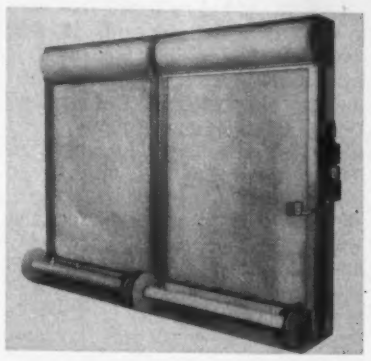
What's New (Con't)

'Roll-O-Matic' Glass Fiber Filter Is Self-Cleaning

——KEY NO. D-444——



LOUISVILLE, Ky.—An automatic self-cleaning air filter called the "Roll-O-Matic" and designed for use in commercial and industrial ventilating and air conditioning systems, has been introduced by the American Air Filter Co., Inc. here.

Designed to clean both outside and recirculated air, the new filter combines the desirable characteristics of both dry type and viscous impingement air filters, the company says. It features the simple operation and maintenance of the dry type along with the large dust holding capacity and higher allowable operating resistance inherent to the viscous principle.

The Roll-O-Matic filtering media is a continuous length of fiber glass material, similar to that used in the company's "Amer-glas" filters, except that it is supplied in rolls of approximately 70 linear ft.

The material from the roll of clean media, mounted at the top filter casing, is transported on a continuous screen that rotates over top and bottom sprockets, down the face of the filter and is re-rolled at the bottom after collecting its dust load.

A pressure switch sensitive to the resistance differential across the filter curtain actuates a drive motor that rotates the screen and feeds a certain amount of clean media into the filter curtain when the resistance reaches a predetermined point.

In this way media usage is in direct proportion to dust conditions and hours of operation. Field tests indicate that under normal operating conditions a single roll of media should be a year's supply per 10,000 c.f.m. of filter capacity, the company said.

The introduction of the Roll-O-Matic has been made possible by the new and distinctive type of glass fiber filtering media developed by AAF research engineers.

This material is composed of continuous strands of slightly curled and interlaced glass fibers held in place at each point of contact by a thermo-setting plastic bond to form a thick resilient mat.

These mats measuring some 70 ft. in length are trimmed to the corresponding widths of the filter section. Then they are sprayed with a special non-flammable "Viscosine" that will not drip at temperatures up to 150° F. Finally they are rolled on spools having an outside diameter of only 13 in.

In substance and from the standpoint of handling, this material is basically a dry filtering media, but its performance characteristics are those of a viscous air filter, the company claimed.

The Roll-O-Matic is made in vertical sections 3, 4, and 5 ft. wide and in heights from 5 ft. to 15 ft. in 4-in. increments. One drive mechanism will operate from three to six sections depending upon their height.

Viking Blower Packages Have Square Inlets

——KEY NO. D-445——

CLEVELAND—Two new models, having square inlets for attachment to either round or square cold air ducts, have been added to the Viking blower package line, the Viking Air Conditioning Div. of the National Radiator Co. here announced recently.

Called the models 310 and 312, the square models are designed to permit lower air movement capacities to fit smaller homes. The model 310 distributes heat from a 75,000 B.t.u. furnace throughout a 13,000-cu. ft. home, while the model 312 is recommended for 22,000-cu. ft. homes with 130,000 B.t.u. furnaces.

As the air inlet on the top of the cabinet is square, it accommodates most square or rectangular air return ducts with the aid of transitional fittings. A round air return may be quickly connected by using a round-to-square boot.

Viking has made available a thermostatic bonnet switch which controls the starting and stopping of the blower. This single-speed blower control features a "summer position" for year-round comfort selection.

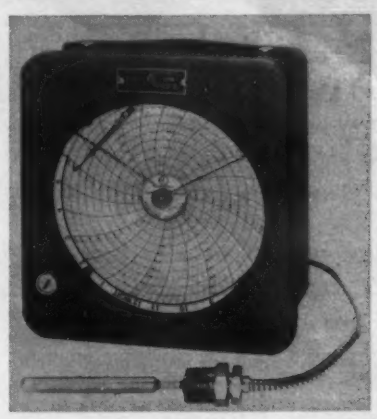
Temperature Recorder Is Evenly Calibrated

——KEY NO. D-446——

TOLEDO — A new temperature recorder — Model "1000" — with a 6-in., clear-reading, evenly-calibrated chart has been added to the line of industrial thermometers manufactured by The Electric Auto-Lite Co., Instrument and Gauge Div.

It is available with 24-hour (one chart revolution daily) or seven-day (one revolution weekly) electric or mechanical chart drive. Standard chart ranges between -40° to 550° F., according to need.

Model 1000-B is portable with



leather strap handle and capillary tubing on spool at back of case. Other models available are 1000-A, bottom connection wall mounting style with brackets, and 1000-C, self-contained portable with leather strap handle.

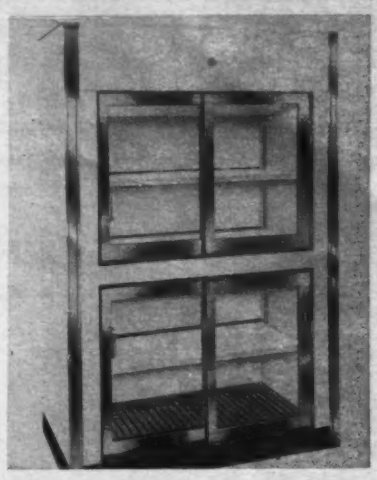
The recorder features an aluminum die-cast case and is 7⅛ high, 6⅝ in. wide, and 3 in. deep. It is available with cycle indicator. It is priced from $49.50, the company said.

Small Wall Cooler Fits Into Limited Floor Space

——KEY NO. D-447——

BALLY, Pa.—A small new wall cooler has been introduced by the Bally Case and Cooler Co., which will fit into a narrow floor area.

This new refrigerated wall case is only 4 ft. wide, 31 in. deep, and 81 in. high. It has storage capacity of 33 cu. ft. and actually has 24 sq. ft. of shelf area. Purpose of the unit is to provide efficient storage and maximum display in small areas.



The new cooler can be used as a self-service box in supermarkets, food stores, delicatessens, and cafeterias. It can hold dairy products, beverages, or beer. Further use for the unit is seen in florist shops and in restaurants as a salad refrigerator.

The interior and exterior of the case are clad with acid-resistant porcelain. Each of these units is equipped with lightweight, free moving, sliding doors. By lifting these doors out, the cooler can be converted into a self-service case.

Because of its 31-in. depth, the case will clear through narrow doorways with room to spare.

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Key No. ..... Key No. .....
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(list name, page, and issue date)

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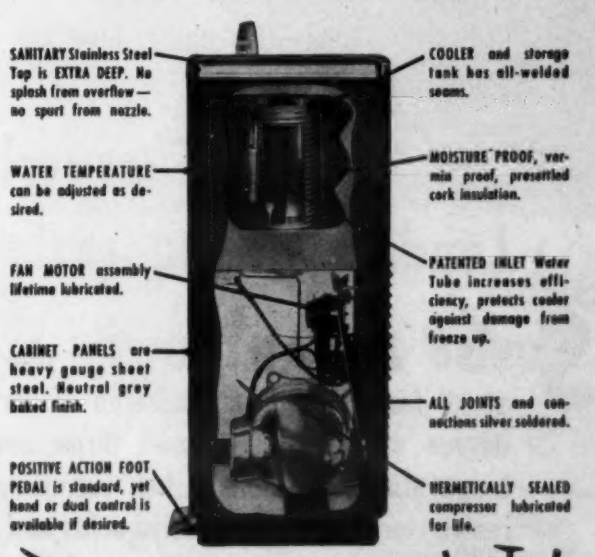
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Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

How The Moisture Got In

Pete and Al were at the work bench in their shop, cleaning and repairing their stock of used replacement motors that had accumulated during the past summer but which would be needed again when the hot, sultry days would keep their telephone ringing with calls from frantic customers.

Now the ground was covered with a foot of snow and the red line in the thermometer just outside the window was hardly in sight. In the shop though, it was warm and comfortable and while the boys worked, they talked refrigeration as servicemen are apt to do when they are relaxed.

Inevitably they got around to moisture; no discussion on refrigeration service can long avoid it.

"You know, Pete," said Al, "the more I learn about moisture inside the system, the less sure I am that I know much about it. As you know, I've been working on most all kinds of jobs for seventeen years, and it looks as if I ought to know most of the answers on how moisture gets into a job and how to get it out, once it gets in."

"Well, of course, I haven't been in the game as long as you have, Al," replied Pete, "but I've seen some funny things happen. Some of them I was able to explain after a fashion, at least well enough to satisfy myself, but some I didn't find the answer to for months afterward. If a fellow keeps reading the books and trade papers and listening to speakers at educational meetings, he will finally find a lot of the answers.

FREEZE-UPS AFTER YEARS WITHOUT TROUBLE

"The jobs that freeze up suddenly after running without trouble for years maybe are the ones that puzzle me the most."

"Yeah, I know what you mean," replied Al, "I've had them like that. The trouble is that on many of those jobs, a fellow does several things, any one of which may have cured the trouble. He goes over the job for leaks, maybe finding a little one; he puts on a new drier; he tightens up some of the connections; and he puts in some gas. Apparently he fixes it, for he doesn't get any call backs, but he is not sure where the leak was nor what he did that fixed it, so he doesn't know much more than he did before."

"I had one like that last summer," replied Pete. "I still don't know what happened.

"You remember when my kid sister got married last June? Well, she and Roy didn't have much dough, but they just had to have a refrigerator, so she asked me if I could get a good used refrigerator.

"It so happened that I had bought one not long before from a fellow over on the West Side. He had bought a new and bigger refrigerator that Spring, but hadn't traded in the old one, for he thought it might be a good thing to keep it as an extra when company came.

"However, he had no place to keep it but in the garage, and it was in the way. Also he had read about children being trapped and suffocating in old boxes, so he decided to get rid of it.

"From what he said, it was working alright, but I checked it over pretty well. I couldn't find much wrong with it. The starting relay acted sort of sticky, so I put on a new one; also a new capacitor, for the old one tested pretty weak.

"I gave it to the kids for just what it cost me, plus the new relay and capacitor. They were tickled pink, and it worked fine and looked pretty good, too. But in about a month Sis called me that it wasn't working. She was real worried and probably had visions of having to get a new one after all, or at least it would take an expensive overhaul job.

A LOOSE TERMINAL PLUG

"It didn't take long to find the trouble. There was a little oil around one of the terminal plugs. I tightened it, and the other two while I was at it, and went over the whole unit carefully with my torch. At the time. I wasn't sure how much pressure there was in the unit.

"I started it up and it was evident that it was low on charge. I put a small charging valve in the liquid line and added a little less than a half pound of refrigerant. I know how much I put in, because I weighed the service drum before and afterward.

"After it pulled the temperature down, I found that I had a little too much in so I purged out just enough to get the frost line back almost to the coil when the unit stopped. Then I went over it with the torch again and it was okay.

"I didn't put on a drier, for the system hadn't been opened and I knew that my service drum was dry for I had just cleaned it out not long before, and it was filled from a factory cylinder.

MOTOR CASE ON HIGH SIDE

"The leak had been from a terminal plug, and on that make of unit the crankcase is on the high pressure side, so moisture couldn't have got in.

"On the way home from the shop that evening I stopped by to see it, and it was frosting up and then defrosting, so I was sure that the cap tube was freezing up. I could hardly believe it, but there it was.

"I cut into the liquid line and put on a small drier, and adjusted the charge, and it's been fine ever since. It just had to be moisture, but I can't figure where it came from and how it got in. I still can't figure it out.

"That refrigerator had been running for years without trouble. It ran alright in the shop and for a month as Sis's. Then when it gave trouble, it had all the appearance of moisture freezing in the cap tube.

"But how could moisture get in? Of course there was the leak around the terminal plug. Maybe it got loosened up in bringing the refrigerator into the shop or taking it out to Sis. Anyway, I don't see how it could have had anything to do with moisture getting in.

"I'm sure I didn't get any moisture in when I added charge, and I'm sure that my drum was dry. Could be that the refrigerant itself had some moisture in it, but I don't believe it did. It was a factory drum, and besides I didn't have any trouble anywhere else that indicated that we had got a drum of wet refrigerant.

"Then, too, I understand that the factory guarantees the refrigerant to not have more than 10 parts per million of moisture in it; and that it is good for about 6° without freeze-up. Of course, the evaporator probably gets down that low toward the end of the run. On the other hand, I used refrigerant out of that drum in freezers and didn't have any trouble, although, of course, I had driers on the freezers.

"That unit holds about a pound of gas and I had to put in less than a half pound, so the pressure couldn't have got down very low with a half pound of gas in it.

"The job has been running okay since I fixed it last July, with no sign of moisture, or any other trouble for that matter. The wife and I were over there for dinner a couple of Sundays ago, and I sort of looked the refrigerator over a little. You know how it is.

"If that trouble last summer wasn't moisture trouble, then I've never seen moisture trouble. I'm not so smart, but I don't think I'm that dumb either. I'm sure it was just ordinary, plain freeze-up of the capillary.

"But I still can't figure how the moisture got in."

(To Be Continued)

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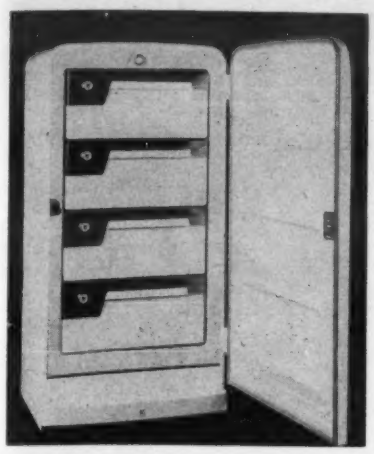

1954 Westinghouse Upright Freezer.

Westinghouse--

(Concluded from Page 1, Col. 2)

A "Freez-File" inventory recorder, an integral part of the exterior design, permits planned storage of foods in the freezers.

Stephenson said the 8½-cu. ft. model, UFG-85, will carry a suggested retail price of $354.33 and the 12-cu. ft. model, UFG-120, will retail for $440.50. A third model in the line, an 18-cu. ft. model, FE-180, was introduced last year. It will retail for $578.89. All models are available now for national distribution.

Both the 8½ and 12-cu. ft. freezers have two refrigerated plates, located at the top and bottom of the quick-freeze compartment, to provide -10° to -15° F. temperatures for fast freezing of high-sugar content fruits, vegetables, and pastries. Wrapped around three sides of the cabinet is a refrigerating system that maintains zero or lower temperatures, it is stated.

These two new freezers have been styled and designed for installation in kitchens or first floor utility rooms. Interiors of the new models are in "Arctic Blue" color including the inner door panels, breaker strips, and Cold-Saver doors for the compartments. The hobnail motif is carried out in a blue plastic band across the outer door and continued on the separate doors for the inner compartments.

The Freez-File inventory recorder, used on all three upright models, is located on the outside door of the freezers where the homemaker can determine what is stored in the freezer and its location and quantity, before opening the freezer door.

To use the Freez-File, the user merely slides the file from the holder and places the selector to the food classification she wants. The file opens to give her a complete inventory record of the items stored in the freezer and a running inventory of use.

Defrosting in the 8½ and 12-cu. ft. freezers is easy to accomplish, Stephenson said. These freezers, he explained, maintain -10° to -15° F. in the quick-freeze compartment and all frost will collect there since it is the coldest location.

Pans of hot water placed in the quick-freezing compartment will remove the frost and the defrost water collects in the tray directly beneath the freezer compartment for easy removal. This eliminates the scraping or scooping of frost and the need to remove any frozen foods from the storage compartments, he added.

Stephenson gave the following model by model descriptions of the three upright freezers:

Occupying 28 in. of floor space, the 8½-cu. ft. freezer, model UFG-85, has a frozen storage capacity of 294 lbs. of foods. It has three inner compartments, two with Cold-Saver doors and one roll-out storage bin for bulky and odd-size packages. A removable pastry rack has adjustable racks for the safe storage of cakes and pies. The slide-out fruit juice tray permits orderly filing of fruit juice cans and other small packages. The freezer is equipped with a guard light that goes off in the event current is turned off.

The 12-cu. ft. freezer, model UFG-120, occupies 32 in. of floor space and holds 420 lbs. of frozen food. It has four inner compartments, three with Cold-Saver shelf doors and one roll-out storage drawer for bulky cuts of meat and poultry.

It also has a slide-out tray for juice concentrates, a three-tiered removable pastry rack, and guard light.

Featuring a frozen-food storage capacity of 630 lbs., the UFE-180, an 18-cu. ft. model, occupies 36 in. of floor space. The quick-freeze area is located in the lowest of the four inner compartments. All are equipped with center-opening Cold-Saver doors. The freezer is equipped with a removable pastry rack and guard light.

All freezers are powered by the Westinghouse "Economizer" hermetically-sealed unit with a built-in "Watchman" thermostat to protect against power overload conditions. Once the power condition is corrected, the built-in Watchman automatically restarts the refrigerating unit.

Nash-Kelvinator--

(Concluded from Page 1, Col. 2)

Mason in making his announcement of the merger, "we have already greatly broadened the Kelvinator, Leonard, and ABC lines. Intensified research and engineering programs already have been launched for the Kelvinator Div.

"We will gain increased efficiency through the consolidation of a number of administrative functions and the combination of purchasing, engineering, research, and general operating strength, as well as the know-how of experienced people."

To Make Plant Changes

BUFFALO—Buffalo Forge Co. has been granted a building permit to make alterations to its plant at 490 Broadway here at a cost of $80,000.

Anderson Heads Unarco Cooling Div. Field Sales

CHICAGO—R. M. Anderson has been appointed field sales manager of Union Asbestos & Rubber Co.'s cooling division, Chester S. Stackpole, general sales manager of Unarco's heating and cooling division, announced recently.

R. M. Anderson

Prior to joining Unarco, Anderson had been a member of Servel, Inc.'s factory staff at Evansville, Ind., in charge of the national account department of the air conditioning division.

Associated with the air conditioning market since 1937, when he joined Peerless of America after leaving college, he is widely known in the field throughout the southwest and southeastern parts of the U. S.

Anderson formerly worked for Sunbeam Electric Mfg. Co., now known as Seeger Refrigerator Co., until joining Servel in 1944.

Hopkins Sells Deering Line

ATLANTA—Hopkins Equipment Co., 418 W. Peachtree St., N.W., has been named exclusive distributor in Atlanta for the Deering casement room air conditioner line.

NEMA Firms Sell 344,101 Refrigerators In Jan.

Summary for January, 1954
Complete Electric Household Refrigerators Only—Sales by Sizes—Units

JANUARY (16 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	....	....	....	....
2. 4 cu. ft.	946	....	181	1,127
3. 5 cu. ft.	13	....	3	16
4. 6 cu. ft.	8,277	101	1,551	9,929
5. 7 cu. ft.	26,652	111	980	27,743
6. 8 cu. ft.	76,869	1,213	5,405	83,487
7. 9 cu. ft.	67,586	578	2,047	70,211
8. 10 cu. ft.	42,180	780	991	43,951
9. 11 cu. ft.	64,316	1,577	2,028	67,921
10. 12, 13 cu. ft. and up..	38,967	233	516	39,716
11. Total	**325,806**	**4,593**	**13,702**	**344,101**
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	**41,883**	**168**	**796**	**42,847**

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; A. J. Lindemann & Hoverson Co.; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Seeger Refrigerator Co.; Servel, Inc.; Westinghouse Electric Corp.

NEMA Sales--

(Concluded from Page 1, Col. 3)

Canadian sales dropped 49%—from 9,046 units to 4,593. Canadian sales, however, were much improved over December.

As compared with December, domestic sales were up 79% while sales to other foreign countries dipped by 6%.

Freezer sales, as reported by 23 manufacturers, were down 42% from January, 1953, which was one of the best months scored by Nema manufacturers (85,114 units). However, they were 33% higher than December's total, with strong gains showing in all markets.

More than a third of all freezers sold in January were of the upright design.

Here's Harry Alter's DEPENDABOOK No. 161 1954

REFRIGERATION PARTS and Supplies plus

Electric-Motor Parts, Air Conditioning and Heating

There are over 9,000 items illustrated, described and rock-bottom-priced in our newest DEPENDABOOK. So—get and use this money-saver! Write for your copy to

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REVERE

DRYSEAL

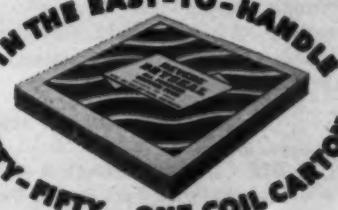
COPPER REFRIGERATION TUBE

Not one but two crimps are made in each end of DRYSEAL. This is the final step in manufacturing, that immediately follows a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube.

The seal is made in such a way that the diameter of the tube does not change, which permits DRYSEAL to be passed through any opening large enough for the tube itself.

As for bendability—the soft temper of the copper used in DRYSEAL allows you to make the most intricate bends by hand. And its ductility and soft temper make it extremely easy to flare for compression fittings without danger of splitting. Economical tube sizes range from ⅛" to ¾" O.D.

In addition, the DRYSEAL carton has been attractively designed for easy identification in stock. It contains one 50-foot coil of DRYSEAL . . . is easier to handle, light weight, economical.



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COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

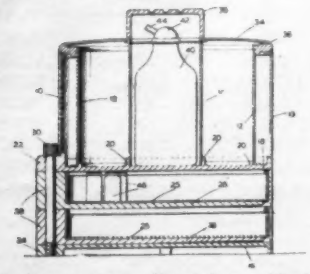
Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y. Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

PATENTS

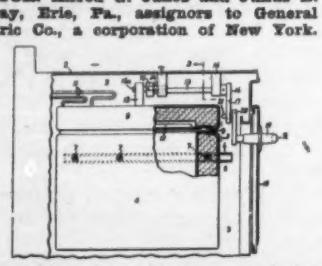
Week of January 12 (Concluded)

2,665,563. REFRIGERATED CREAM DISPENSING CABINET. Ronald W. Walker, Amarillo, Texas.



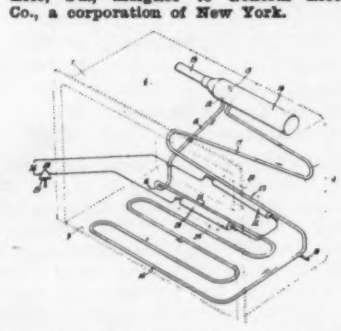
1. In a cream dispensing cabinet an insulated jacket, a refrigerant containing chamber, a container chamber partially surrounded by the said refrigerant containing chamber, a plurality of hingedly supported circular trays below the said refrigerant and container chambers, and a cover mounted above said chambers, a second cover hinged to the first mentioned cover and positioned above and adapted to close the said container chamber.

2,665,564. UNDER COUNTER REFRIGERATOR. Alfred G. Janos and Julius B. Horvay, Erie, Pa., assignors to General Electric Co., a corporation of New York.



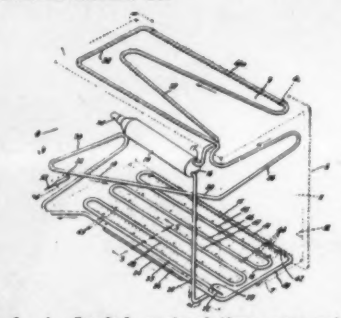
5. A cabinet for refrigerators and the like comprising an outer wall defining an inner space, at least one drawer movably mounted within said inner space and adapted to be moved between a first position within said inner space and a second position projecting from said inner space, said drawer including heat insulating side and bottom walls defining a storage compartment, a heat insulating lid normally maintained in sealing engagement with said drawer when said drawer is in said first position, a cooling element mounted in said lid for extracting heat from said drawer, and means for moving said lid out of sealing engagement with said drawer to afford movement of said drawer from said first position to said second position, said means including a rotatable operating shaft, an operating lever movable with said drawer, and a disengageable mechanical linkage between said operating shaft and said operating lever.

2,665,566. EVAPORATOR DEFROSTING ARRANGEMENT. Charles S. Grimshaw, Erie, Pa., assignor to General Electric Co., a corporation of New York.



1. A flooded evaporator comprising a header and a single continuous length of tubing connected at both ends to said header and providing a series circuit for refrigerant, said tubing including a first portion and a second portion in series circuit with said first portion, one end of said tubing being connected to said header below the level of liquid refrigerant therein for supplying liquid refrigerant to said first portion, the other end of said tubing being connected to said header above the level of liquid refrigerant therein for conducting vaporized refrigerant from said second portion to said header, and means for supplying heat to said evaporator at two sections of said tubing spaced along the series circuit thereof for defrosting said evaporator, heat supplied to at least one of said sections being also effective for inducing circulation of refrigerant through said continuous tubing.

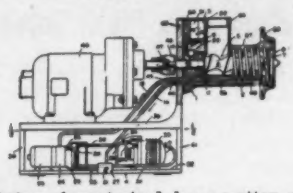
2,665,567. EVAPORATOR DEFROSTING ARRANGEMENT. Ralph E. King and Harley H. Bixler, Erie, Pa., assignors to General Electric Co.



1. A flooded recirculating evaporator comprising a header and continuous tubing connected at both ends to said header, said tubing including a first portion and a second portion in series with said first portion, one end of said tubing being connected to said header below the level of liquid refrigerant therein for supplying liquid refrigerant to said first portion, the other end of said tubing being connected to said header above the level of liquid refrigerant therein for conducting vaporized refrigerant from said second portion to said header, and a single heater disposed in heat exchange relationship with a section of said first portion of said tubing near the beginning thereof, said heater being further disposed in heat exchange relationship with a second section of said tubing near the beginning of said second portion of said tubing, whereby vaporization of liquid refrigerant and defrosting of said evaporator is effected.

2,665,724. REFRIGERATED MEAT CHOPPER. Arnold W. Lundell, Byram, Conn., assignor to Globe Slicing Machine Co., Inc., Stamford, Conn.

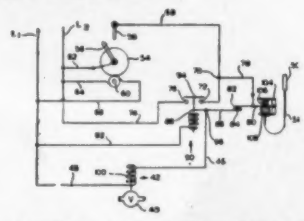
A commodity chopper operatively connected to a refrigerating system having feed and return conduits and a pump for circulating a heat transferring medium by means of said conduits to and from the commodity chopper, the commodity chop-



per being characterized by a cutter and advancing screw having a shaft, a stationary casing section, a removable casing section chambered to form a funnel and main passage for said cutter and advancing screw, there being a channel formed in the wall of said removable section surrounding said main passage, said casing sections having opposing accurately planed contact faces, feed and return ends for the channel in said removable section terminating in the contact face of said removable section, annular recesses surrounding said ends, compressible washers disposed in said annular recesses, the feed and return conduits of the refrigerating system having portions extending through said stationary section and protruding from the contact face of said stationary section in position to register with the feed and return ends, respectively, of the channel in said removable section, the protruding portions of the feed and return conduits being tapered, but otherwise snugly conforming to the inner contour of the said feed and return ends to afford a snug fit with one another, a projection on said stationary section extending from its contact face and snugly conforming to the interior of the rear end of the main passage in said removable section, and clamping means for clamping said casing sections with their contact faces in intimate engagement with one another to seal off against leakage not only the rear end of the main passage in said removable casing, but also the connections between the protruding portions of the feed and return conduits and the feed and return ends of the channel, said projection cooperating with the protruding portions of said feed and return conduits being parallel to one another and cooperating with one another to serve as indexes for accurately positioning the removable casing section relative to said stationary casing section when said clamping means are operated to draw the contact faces into intimate engagement with one another.

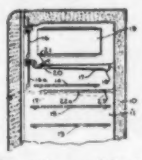
Week of January 19

2,666,239. REFRIGERATOR DEFROSTING CONTROL. Myer S. Sutton, Minneapolis, Minn., assignor to The U. S. Thermo Control Co.



1. A system for controlling the operation of a defrosting control device, comprising a first circuit including a motor operatively connected to the control device and which when energized activates the control device to initiate defrosting of a cold diffuser, a source of power, a normally closed switch in the circuit between the source of power and the motor, a normally open switch in the circuit between the source of power and said first named switch, said second named switch which when closed being effective to energize said motor, a relay solenoid in said circuit which is energized simultaneously with the motor and concurrently closes a pair of relay contacts, and a second circuit including the source of power, said relay contacts, said first named switch, the relay solenoid and said motor, said second circuit being effective to maintain energization of the motor independent of the second named switch, said first named switch on opening being effective to de-energize either of said circuits.

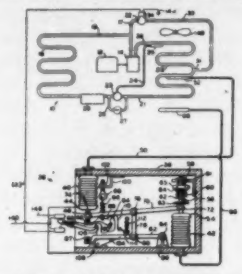
2,666,300. REFRIGERATOR CABINET. Homer E. Rosebrook, Greenville, Mich., assignor to Gibson Refrigerator Co., Greenville, Mich.



In a refrigerator cabinet having an evaporator compartment and a second compartment immediately below said evaporator compartment, said compartments being substantially coextensive horizontally with the interior of said cabinet and having provision for air communication between said compartments, the improvement which comprises a drip pan baffle substantially coextensive in a horizontal direction with said compartments, means in said cabinet for removably mounting said drip pan baffle at the top of said second compartment, and means in said cabinet for removably mounting said drip pan baffle at the bottom of said second compartment said drip pan baffle being capable of association with said evaporator compartment or said second compartment whereby to change the temperature of the second compartment and to collect drip from said second compartment as well as drip from said evaporator compartment.

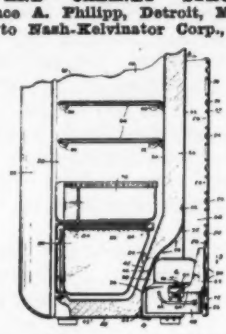
2,666,302. METHOD AND MEANS OF DEFROSTING A COLD DIFFUSER. Frederick M. Jones, Minneapolis, Minn., assignor to U. S. Thermo Control Co., Minneapolis, Minn.

1. In combination with a refrigeration plant having a high pressure side and a low pressure side, means for circulating air in contact with the low pressure side, a conduit connecting said sides for conducting hot gas from the high pressure side to defrost the outer surface of the low pressure side, a two-position valve in said conduit for controlling the flow of said gas, an electric operator connected to said valve, a switch connected to said valve, means for operating said switch compris-



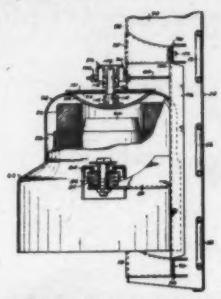
ing a first thermal motor responsive to the surface temperature of the low pressure side, a second thermal motor responsive to the space temperature ambient to the low pressure side, a first lever connected to both of said motors, a second lever connected to the first lever, and switch operating means extending between movable ends of said levers and operated by the conjoint action of both of said motors.

2,666,302. REFRIGERATING APPARATUS AND CABINET STRUCTURE. Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit.



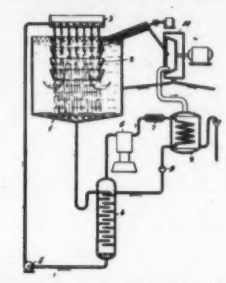
5. In a refrigerator, a cabinet, a wall member spaced from a wall of said cabinet to form a flue, a refrigerant motor-compressor unit disposed between said wall member and the wall of said cabinet to be cooled by air ascending the flue, said wall member having spaced horizontally extending reinforcing ribs, a refrigerant condenser coil mounted on and to the inner surface of said wall member, said coil being sinuously bent and arranged to have horizontal runs respectively disposed in the spaces between said reinforcing ribs, and vibration dampener mountings supporting said compressor and secured to said reinforcing ribs.

2,666,301. MOUNTING REFRIGERATING APPARATUS. Ralph W. Doeg, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich.



1. In refrigerating appartus, a mounting member support, a motor-compressor casing supported by said mounting member support, lower resilient mounting means carried by said support and arranged as the sole support of said motor-compressor casing, an upper resilient member carried by said support solely to suppress motor-compressor noises, and a noise transmitting member operatively connecting said motor-compressor casing and said upper resilient member.

2,666,304. PROCESS FOR CONCENTRATING BY FREEZING. Per Johan Ingemar Ahrel, Sallinge, Sweden.



1. Process for concentrating a solution of at least one substance comprising establishing a continuous bulk of said solution, bringing a quantity of mercury containing an amalgam of a hydrogen displacing metal into contact with said solution, keeping said mercury in movement when in contact with said solution, cooling said mercury so as to bring portions of said solution to a temperature below its freezing point, and removing substance frozen out from said solution as a result of said cooling.

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EXPERIENCED REFRIGERATION service man. Three years covering electric installations, compressor overhaul, trouble shooting of all types, assembly line. Will consider purchasing, parts counter, parts stockroom control, industrial, electrical maintenance man. Shortage of skilled help forcing me to sell by business. HOWARD S. WALTERS, Box 199, Leoti, Kansas.

POSITIONS AVAILABLE

OPPORTUNITY FOR factory field man contacting distributors of food market equipment. Manufacturer of grocery and super market steel shelving has closed, exclusive territories available. Should have store lay-out and planning experience. Reply to C. R. LINGO ENGINEERING COMPANY, 220-230 Madison Avenue, Covington, Kentucky. Phone: AXtel 1101-1102.

SALES ENGINEER to join refrigeration control manufacturer. Moderate traveling required contacting wholesalers, manufacturers, and contractors. Working out of Detroit, covering Michigan and part of Ohio. Experience in air conditioning and refrigeration required. Must be graduate engineer or equivalent. Prefer man in 25 to 30-year age group. Earnings commensurate with ability and experience. Please include photograph with complete resume of education and experience in your reply. BOX 4548, Air Conditioning & Refrigeration News.

WANTED: A fully experienced commercial refrigeration and air conditioning service man. Steady year around work to qualified party. ALCO REFRIGERATION SALES & SERVICE, INC., 3952 St. Clair Ave., Cleveland 14, Ohio.

EQUIPMENT FOR SALE

ATTENTION SERVICEMEN: Send for our refrigeration parts and supplies catalog. Save up to 50% on many items. Relays, V belts, T.X. valves, fittings, controls, driers. New—guaranteed merchandise. WALTER W. STARR REFRIGERATION, 2333 Lincoln Avenue, Chicago 13, Illinois.

BARGAINS, 25' trouble lamps $1.15, screw drivers 6¢, 6" pliers 6¢, 6" diagonal cutting pliers 75¢, 6" long nose pliers 75¢, 8" combination pliers 75¢, 5 pc punch & chisel sets 65¢, 6" steel rules $3.00 doz., adjustable wrenches & pipe wrenches. Prices hard to beat. 6 piece magnetized screw driver sets, 70¢ set. Call or write J. WILLIAMS, 65 E. Cermak Road, Chicago 16, Illinois, Calumet 5-5524.

HERMETIC UNITS remanufactured by Michigan's leading wholesale hermetic rebuilder. All standard makes. Write for price list and shipping instructions on your letterhead. BRIGHTON HERMETIC SERVICE, 3906 Joy Rd., Detroit 6, Michigan.

SURPLUS AUTOMOTIVE air conditioning supplies. Brand new. Well-known make. All aluminum evaporator coils; Size—13" High, 12" Wide x 3¼" Thick. Flooded type, $20.00 ea. Lots of 10, $15.00 ea. Automotive condensers, complete with mounting brackets and fittings; Size—25" Long x 9" High x 3" Thick. Flat tube type, high capacity, $20.00 ea. Lots of 10, $15.00 ea. Nationally-known make 4 cylinder compressors complete with special automotive flywheel and service valves. Packed in original cartons, $65.00 ea. Lots of 10, $59.50 ea. Blowers for use in auto air cond. complete with 2 speed 6 volt D.C. motors. Capacity up to 175 C.F.M., $9.75 ea. Lots of 10, $9.25 ea. HAR-BERT SALES, 1416 Cherry St., Toledo (2) Ohio. M.P.O. Box 775.

WINDOW UNIT designs for sale (1954 features). Well tested ¾ and 1 h.p. units complete with production drawings—arranged for heat pump and latest drawer type installation which permits minimum-maximum extension into the room. BOX 4549, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

COMMERCIAL REFRIGERATION sales and service company with manufacturing facilities for making walk-in coolers. Business established for seven years. Distributor for nationally-known line of commercial cases. Major equity in modern brick and concrete block building. Terms can be arranged for purchase. Located in Central States region. Excellent opportunity for aggressive man who wants to own a business with an established reputation. BOX 4544, Air Conditioning & Refrigeration News.

MORE COILS
ARE MADE BY
KRAMER
THAN BY ANY OTHER
COIL MANUFACTURER

Mueller Safety Award

OIL CAPITOL chapter of the Refrigeration Service Engineers Society is presented the Mueller Award for work in 1953 on safety. The award is presented by Mueller Brass Co. From left to right are: Mel Cox, treasurer, 1954; Norman Cooper of Mueller Brass Co., presenting the check; Clyde Copp, secretary, 1954; Darrell Robison, president, receiving the check; John Ross, sergeant at arms, 1954; and K. G. Wight, publicity chairman, 1953, and 1954. Robert Willige, vice president, was absent.

'Let's Do More In '54 To Keep Kids Alive In '55' Adopted as Safety Slogan by RSES

CHICAGO—"Let's Do More In '54 to Keep Kids Alive in '55" is the official slogan adopted by the publicity and safety committees of the Refrigeration Service Engineers Society to spark the society's new drive to get rid of abandoned refrigerators or to make them harmless so that they will not become potential child killers.

The slogan was suggested by RSES member George Buchanan of Jacksonville, N. C.

In a letter to local chapters, R. D. Hollingsworth, chairman of the safety committee, and Orville W. Brown, chairman of the publicity committee, noted that despite strenuous efforts to remove death traps and warn the public about them, more than twice as many children died in refrigerators, ice boxes, or freezers last year than in any previous year.

The 1953 total of fatalities reached 29, more than double the 14 that died in 1952, according to an RSES computation. RSES found that 12 had succumbed in death traps in 1951, seven in 1950, nine in 1949, and eight in 1948, and five in previous years.

The RSES research indicated that the ages ranged from 2 to 12 years, with the average age 5. Boys outnumbered girls three to one in the 51 reported accidents involving 86 children.

These figures include two deaths reported last February but did not cover the three deaths that occurred in Utah this month.

RSES found that the largest number of tragedies occur in the summer months from May through September. The committees' letter urged that chapters exert every effort to remind parents of this summer danger and to carry on an aggressive educational campaign.

Adams Buys Appliance Div. Of Deniston In Miamisburg

DAYTON—After 34 years in the appliance business in Miamisburg, C. L. Deniston has sold the appliance division of the C. L. Deniston Co. to C. A. Adams of Dayton.

Engaged in home appliance promotion work for the past five years, Adams was associated with the Rike-Kumler Co. for seven years before retiring from the wholesale appliance sales field. For the last year he has been sales manager of the appliance division of the company which he has now acquired.

A corporation charter has been issued to the new firm to be known as Adams Appliances, Inc., with Adams as president and treasurer; Jean B. Adams, secretary; and Edith M. Bowen, vice president.

Caswell, Bourgette Named Pak-A-Way Regional Mgrs.

MINNEAPOLIS — Two new regional managers for Pak-A-Way freezers have been appointed, J. Reynolds Carey, sales manager of the Pak-A-Way food freezer division of Schaefer, Inc.

Robert A. Caswell, for the last six years central regional manager for CBS-Columbia, Inc., and prior to that sales development manager for Hotpoint, Inc., has been named central regional manager for Pak-A-Way.

Robert M. Bourgette, for the last three and a half years district manager of Deepfreeze, has been made western regional manager for Pak-A-Way.

Worthington Establishes Subsidiary In Bogota

HARRISON, N. J. — Worthington Corp. announces the recent establishment of a new subsidiary, Worthington Limitada, in Bogota, Colombia. Other Worthington Latin American subsidiaries are in Mexico, Argentina, and Brazil.

S. R. Williams, Worthington vice president in charge of foreign business, said the new Bogota subsidiary is "another milestone toward Worthington's goal to bridge the distance between our headquarters here and markets abroad."

Worthington Limitada will be managed by Charles Gorham who joined Worthington as an engineer in 1939 and has been in Colombia for five years. He is currently handling details of Worthington's participation in the International Industrial exposition to be held in Bogota from June 13 to July 12.

Real Cool Move

HAMILTON, Ont., Can. — The Wedgwood Room of the Royal Connaught hotel has been air conditioned.

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. Prospective bidders may obtain complete bid sets by a request **to the purchasing officer under which the purchase is listed** in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. **Ordnance District Offices do not have information on any other purchases.**

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q" or, if numbered, the number will be followed by the letter "Q."

Description	Quantity	Invitation No.	Opening Date
Base Procurement Division, EWMP, Building 120, Wright-Patterson Air Force Base, Ohio			
For re-insulation of Cold Cells and Plenum Chamber, Building 25A, Area "B".	Job	(33-601-54-100-B)	26 Apr 54
District Public Works Office, Eleventh Naval District, San Diego, California			
Ventilate Movie Theater Bldg. Nr. 45, NavSta., L. Beach, Calif.	Job	42132	26 Apr 54
General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pa.			
Cooler, complete, self contained, electrically operated unit, bubbler drinking water, shore type, Fed. Spec. 00C00566B/GSA FSS/.	200 ea.	3 1993B	28 Apr 54
Contracting Officer, Rocky Mountain Arsenal, Denver, Colorado			
Dowtherm exchanger cooler.	1 ea.	54-79B	10 May 54
Purchasing and Contracting Branch, Fort Campbell, Kentucky			
Installation of exhaust fans in 60 mess hall kitchens.	Job	(15-056-54-76B)	27 Apr 54
Galveston District, Corps of Engineers, P. O. Box 1229, Galveston, Texas			
Construction of Mission Staging Bldg., Harlington AFB, Tex. Work to include air conditioning & outside Utilities.	Job	(ENG-41-243-54-72-B)	12 May 54
Department of the Air Force, Procurement and Contracting Office, Vance Air Force Base, Enid, Oklahoma			
Modification to Air Conditioning Bldgs. T-166 & T-168 Project No. 129-53.	Job	(34-600-54-29)	26 Apr 54
Director of Procurement, Air Proving Ground Command, Eglin Air Force Base, Florida			
Furnishing all labor, material and equipment for Installation of Air Conditioning System in Bldg. No. 459 (Hospital Dining Hall) at Eglin Air Force Base, Florida.	Job	(08-603-54-45)	26 Apr 54
Lackland Air Force Base, Texas			
Air Conditioning Bldg. 5300 Dental Clinic, Completion Date 60 to 90 days after receipt of notice to proceed.	Job	41-615-54-32B	28 Apr 54

Warner Robins Air Materiel Area, Robins Air Force Base, Georgia. Attn.: Director, Procurement & Production

SPECIAL NOTICE

This Headquarters is contemplating the award of a Service Contract for the modification of fifty-two (52) each MC-2 Trailers.

This advance notice of proposed procurement is for the purpose of allowing interested Contractors to request copies of the Notice of Negotiation when released.

Several of the factors to be contained in the proposed Service Contract are as follows:

a. Modifying the trailers into portable photographic processing and repair units. The successful Contractor will be required to incorporate into each van a complete plumbing and electrical system; manufacture of work tables, sinks and supporting equipment, installation of certain fixed equipment such as air conditioning units, water tanks, heaters, etc. modification of trailers to provide for installation of photographic equipment in fixed locations with prototype equipment loaned to the Contractor by the Government. In addition, the majority of the fixed equipment which will remain with the vans is to be procured and installed by the successful Contractor. The equipment which is to be loaned to the Contractor by the Government will be removed prior to shipment of the van for subsequent return to the Government. Further the successful Contractor will be required to furnish all labor, materials and supplies required to modify the trailers to Government specifications, other than the accessories and equipment loaned by the Government.

c. Interested firms are cautioned that the proposed contract will contain provisions which are of a technical nature and which will require the use of highly trained personnel in the fields of electricity, photography, design engineering, weight distribution, etc.

If your company is interested in securing copies of the Notice of Negotiation, when issued, it is required that notification to that effect be furnished in writing prior to 24 April 1954. Said notification will contain general information as to the ability of the firm to perform the proposed Service Contract, together with a resume of the firm's previous experience in performing similiar type work. The notification of interest in this negotiation is to be mailed to the Director of Procurement and Production, Warner Robins Air Materiel Area, Robins Air Force Base, Georgia, Attention PPRS.

Description	Quantity	Invitation No.	Opening Date
Contracting Officer, Mobile Air Materiel Area, Brookley Air Force Base, Alabama			
Renovation Air Conditioning Bldg. 14A, Brookley AFB, Ala.	Job	(01-601-54-78B) Local Purch.	27 Apr 54
The Post Engineer, Fort Leonard Wood, Missouri			
Air Conditioning, Complete, Theater No. 4.	1 ea.	(AV23-037-54-32)	28 Apr 54
Air Conditioning, Complete, Theater No. 5.	1 ea.	(AV23-037-54-33)	28 Apr 54
Purchasing and Contracting Div., Bldg. T-104, Fort Monmouth, New Jersey			
Installation of heating system in Temporary Warehouse T-116 and T-117, Fort Monmouth, N. J.	Job	(28-043-54-69)	26 Apr 54
Sacramento Air Materiel Area, McClellan Air Force Base, Calif. Invitation for Bid /B/ and Requests for Proposal /Q/ are distributed to firms listed in the Bidders List maintained by the above activity. A complete bid set is available for EXAMINATION ONLY by prospective bidders at the Air Regional Offices located in the local trading area of the above activity.			
Air conditioning, refrigerating equip. & parts.	14 itm	109-B Local Purch.	3 May 54
Chicago Quartermaster Depot, Quartermaster Purchasing Div., Chicago, Illinois Bid Forms Now Available, Do Not Request After Opening Date.			
Case Display refrigerated multiple deck dairy self-service.	5 ea.	54-208	5 May 54
Case Display refrigerated frozen food open self-service.	4 ea.	54-208	5 May 54

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, 620 Post Office and Courthouse, Boston 9, Massachusetts			
Furnish all labor and materials for installing electric water coolers at U. S. Courthouse, Portland, Me.	Job	(BOS-54-131)	27 Apr 54
General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D. C.			
Renovating cooling tower fans, U. S. Post Office (new) 12th and Penn Ave., N.W., Washington, D. C.	Job	(GS-R3-B-3289)	11 May 54

CONTRACTS AWARDED THROUGH APRIL 16

Savannah District Corps of Engineers, Savannah, Georgia
Construction of Cold Storage & Meat Cutting Plant, Turner Air Force Base, Albany, Ga. ENG-09-133-54-20.—$142,311.—Batson-Cook Co., P.O. Box 151, West Point, Ga.

General Service Administration, Business Serv. Center Region 2,250 Hudson St., New York 13, N. Y.
Fans, electric. Inv. #50683-A.—1022 ea., $18,998.—W. W. Welch Co., 820 Maine Ave., S.W., Washington 24, D. C.

Rome Air Force Depot, Griffiss Air Force Base, Rome, New York
Blower, Centrifugal.—80 ea., $30,393.—Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif.

U. S. Navy Purchasing Office, 180 New Montgomery St., San Francisco 5, California
Refrigerators, Kelvinator Model VKD, 9.5 cu. ft. (10178-1-P2-Q). —206 ea., $34,679.—Nash-Kelvinator Sales Corp., 14250 Plymouth Rd., Detroit 32, Mich.

575th Air Defense Group, Selfridge Air Force Base, Michigan
Modification of heating system at 661st AC&W Station, Selfridge Air Force Base, Michigan. AF 20(602)-141.—Job, $41,306.—Jack Skitch Plumbing and Heating at Royal Oak, Mich.
Modification of heating system at 752nd AC&W Site, Empire, Michigan. AF 20(602)-144.—Job, $38,886.—Frankfort Construction Co., at Frankfort, Mich.
Modification of heating system at 754th AC&W Site, Port Austin, Michigan. AF 20(602)-145.—Job, $38,346.—Ideal Plumbing and Heating Co., at Cass City, Mich.

Ships Parts Control Center, Mechanicsburg, Pa.
Repair parts for compressors.—15,910, $80,229.—Worthington Corp., 401 Worthington Ave., Harrison, New Jersey.
Repair parts for Temperature Regulators.—1,088, $44,898.—Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville, Tenn.

The Everfrost America's Choice
Soda Bar
The Drink Dispenser That
Gives You All These Outstanding Features
★ THREE 2-GALLON SYRUP TANKS
★ POSITIVE CONTROL SYRUP FLOW
★ NEW, FAST-ACTING FAUCETS
★ PATENTED REFRIGERATED CARBONATOR
★ ½ H.P. HERMETIC COMPRESSOR
★ ALL DRY REFRIGERATION
★ DUAL TEMPERATURE CONTROL
★ GREATER EYE-APPEAL
Model ESB 33-A
Red Dulux Body with Stainless Steel Capping on Base
Model ESB 33-B
Stainless Steel Dispenser, Red Dulux Base with Stainless Steel Capping
Model ESB 33-C
All Stainless Steel Finish
Wherever soft drinks are sold the Everfrost Soda Bar is a "natural"; every restaurant, drug store, drive-in, school and hospital can serve better drinks, faster and more economically with a Soda Bar. Write today for complete information on the Everfrost Soda Bar . . . the world's finest drink dispenser.
Check This Profit Story
If You Serve Bottled Drinks
You buy, store and cool 30 cases of bottles to serve 720 drinks.
Average cost per bottle 5½c
Handling, icing, breakage, loss ...1½c
Cost Per Bottle 7c
Sales—720 bottles @ 10c..$72.00
Cost of bottled drinks.. 50.40
Your Profit $21.60
If You Serve Soda Bar Drinks
720 drinks from a Soda Bar can be served from just 6 gallons of syrup.
Cost of syrup per drink 1½c
Cost of CO₂ gas, electricity, water ½c
Cost per drink 2c
Sales—720 drinks @ 10c..$72.00
Cost of Soda Bar drinks 14.40
Your Profit $57.60
Write Today for Complete Information
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THE BEST IN

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Engineered to Maintain Any Temperature Required Throughout the Trip!

NOW AVAILABLE!

In sizes to fit all applications; standard thicknesses of 2⅛"-2⅝". May be installed in horizontal position suspended from the ceiling, in a vertical position along the walls, or as a partition. *Cold-Cels* can carry eutectic solutions ranging from -59° to +26°. Economical to operate.

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Maximum Refrigeration Efficiency
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Evis Answers--

(Concluded from Page 1, Col. 2)

initial decision. This initial decision is subject to appeal or review.

The FTC reports that in its answer, the Evis Mfg. Co. and its officers aver that the conditioner will, among other things, remove unpleasant odors and flavors in most waters, require use of less soap, reduce costs of heating most waters, eliminate or noticeably reduce the harshness of most water on hands, cause dishes and glassware to dry without leaving water stains, and reduce rust stains.

(The FTC in its report on the company's answer did not say whether the company had made any comment on the charge of false representation in the matter of "preventing and removing scale, and eliminating corrosion.")

Evis in its answer specifically denied claiming that the product would cause hard water to become soft. They declare that their current advertisements consistently state that the conditioner is not a water softener and that its use will not add or remove natural water minerals.

The respondents admitted that they had used the statements claimed by the FTC as being false and misleading, but deny that they are typical of current advertising.

The answer points out that the company has modified some of the statements challenged by the complaint. Where formerly it was said that the device "makes even the hardest water behave 'Tame'" the answer says that present advertising now says only that it "makes most hard waters behave 'Tame.'" Instead of claiming the device pays for itself, in soap and fuels savings, the respondents say it "often pays for itself."

Coleman '53 Sales Set Record, Profit Lower

WICHITA, Kan.—Net sales of The Coleman Co., Inc. last year reached a new record high of $44,111,570, Sheldon Coleman, president, reports.

This marked the third successive record year for the company. The 1953 total was an increase of $3,823,539 over the 1952 figure.

Earnings for 1953 totaled $1,764,441, or $4.24 a share on the 400,000 shares of common stock, compared with earnings of $2,321,333 or $5.62 a share for the preceding year.

Coleman said the decline in earnings was due mainly to the narrow margin of profit on military contracts which in 1953 constituted a larger part of the sales total.

Other profit limiting factors were the sharpening of competition on the commercial front, necessitating lower prices and increased selling expense, and heavy expenditures required in launching the company into the air conditioning business, he noted.

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go in for

ROOF COOLING

(a good business)

It's profitable

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We furnish coolers and pipe plans for you. You install with your material as in your other business.

Ask for our literature; no obligation.

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Los Angeles 22, Calif.

Applications Widen

Lincoln's Tomb, Museum In Utah To Be Cooled

SPRINGFIELD, Ill. — Falconer Refrigeration Co. here was recently awarded a $7,953 contract for air conditioning of Lincoln's tomb in Oak Ridge cemetery, according to the state division of architecture and engineering.

Air will be cooled in the summer and warmed in the winter by three separate thermostatically-controlled units. The air conditioning system will not change the appearance of the monument. Up to now, electric fans have provided the only ventilation in the tomb.

SALT LAKE CITY — Installation of a much-needed air conditioning system in the Memorial Museum here of the Daughters of Utah Pioneers has been approved by Utah's Board of Examiners.

The system is required because a skylight lets in a substantial amount of heat in the summer, according to Mrs. Kate B. Carter, president of the state central company, DUP.

The DUP will pay for the $10,000 installation under supervision of the State Building Board. However, the state will have to pay for electricity to operate the system. The additional power cost will be $600 to $800 a year, it was estimated by Wendell Cottrell, deputy secretary of state.

Report Building Activity Running at High Level

NEW YORK CITY—Two recent surveys of the building business turned up good news: Activity generally was at a high level.

Construction contracts awarded during March in 37 eastern states totaled $1.5 billion, a gain of 13% compared with the same month last year, according to a report by F. W. Dodge Corp.

The report said March nonresidential contracts were up 18% from a year ago, residential awards up 10%, and public works and utility contracts up 12% over 1953 figures.

A survey by *The Wall Street Journal* of activity in 11 cities found building of all types "running at or above last spring's high level in most places."

Jersey City Board OK's 'Death Trap' Ordinance

JERSEY CITY, N. J.—A municipal ordinance recently adopted by the City Commission provides stiff penalties for persons found guilty of leaving refrigerators or iceboxes in disuse without first removing the lock from the door or the door from the chest.

Violators will be subject to a fine of $50 or a 10-day jail term, or both, for each day they violate the ordinance.

Mueller Climatrol Holds Cooling School

MILWAUKEE — In a move toward proper installation and servicing of air conditioning equipment, Mueller Climatrol has conducted three cooling schools at Milwaukee so far this year for its customer service representatives.

The five-day schools were conducted in conjunction with the Milwaukee School of Engineering and are believed to be the first of their kind ever staged by a manufacturer in association with an accredited institution.

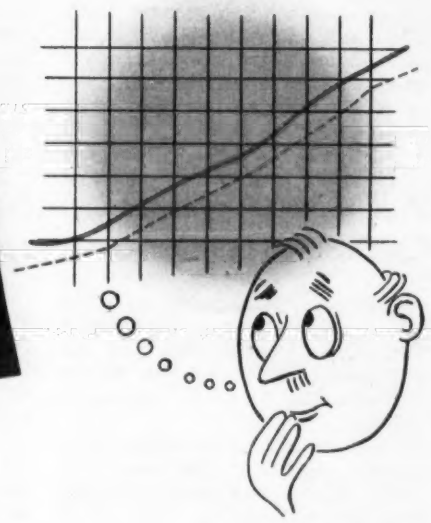
The classes were instructed by Mueller Climatrol technicians, engineering school faculty, and other refrigeration and air conditioning specialists.

Based on a regular 18-month refrigeration course curriculum, the school subjects include air properties, supply and distribution, refrigeration fundamentals for air conditioning, cooling load calculation, and equipment.

Three laboratory sessions were also scheduled to provide practical equipment service problems which tested student proficiency in locating and servicing cooling equipment.

JUST ASK US!

Turn to "What's New" Page for useful information on new products.



This is the kick off month for the building season—the time of the year that's really BIG for copper tube wholesalers.

It's the time of the year, too, to be realistic about inventories. It's good business, for example, to maintain stocks at profitable levels—to order according to anticipated demands.

Here are some tips: keep a constant check on stock—make it a point to re-order before you are out—and make certain to order direct from a handy Wolverine mill depot.

By the way, to help you keep abreast of inventories, Wolverine has prepared a handy "Want Book". If you'd like copies, let us know—today!

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VOlunteer 3-7140

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